Discipline Report

Air Quality

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Magnolia Bridge Replacement

City of Seattle

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Introduction

The Magnolia Bridge Replacement Project is planned and designed to replace the existing Magnolia Bridge structure, approaches, and related arterial connections with facilities that maintain convenient and reliable vehicular and nonmotorized access between the Magnolia community and the rest of the City of Seattle (City). A detailed description of the project purpose and needs and the study area and locations of project activity are provided in following sections.

Affected Environment

The study area currently meets the National Ambient Air Quality Standards (NAAQS) and all state and local ambient air quality standards for regulated air pollutants. The Washington Department of Ecology (Ecology) State Implementation Plan (SIP) designates the Puget Sound region as a "maintenance area" for particulate matter less than 10 microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$) in size, carbon monoxide (CO), and ozone.

The U.S. Clean Air Act (EPA 1990) and the Washington Clean Air Conformity Act (Ecology 1995) require that all federally funded transportation plans in nonattainment or maintenance areas demonstrate conformity consistent with the *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995).

Analysis Methods

This Air Quality Discipline Report documents research on background conditions in and around the study area and analyzes the requirements of federal and state conformity regulations. The applicable guidelines for demonstrating conformity in the study area are contained in Section 425 of the *Environmental Procedures Manual* (WSDOT 2003), the guidebook for conformity (mentioned above), and *Guidelines for Modeling Carbon Monoxide from Roadway Intersections* (EPA 1992a). These guidance documents identify CO, ozone, hazardous air pollutants (HAPs), and PM_{10} as pollutants that could affect air quality with this type of project. The air quality evaluation for the project focused on this set of pollutants.

To demonstrate conformity, a qualitative analysis of particulate matter impacts and quantitative modeling for CO must be performed. Because this study area does not feature any limited access freeways, "hot spot" analyses are required at the worst-performing intersections in the study area. Two models were used for these analyses. CO emission rates were calculated using the model MOBILE5b, based on data describing the local vehicle fleet and driving conditions. Ambient CO concentrations near the roadway were estimated using the model CAL3QHC, taking into account the local geography, roadway layout, public access, and meteorological conditions.

Agency Coordination

Existing ambient air quality levels and the study area's attainment and maintenance area status for those air pollutants, as regulated by the U.S. Environmental Protection Agency (EPA) and local jurisdictions, were taken from air quality data summary reports from 1999 to 2002 (PSCAA 2003a). Puget Sound Clean Air

Agency (PSCAA) Air Program staff and database managers confirmed these data and verified that monitoring was consistent with reported trends (Kircher, pers. comm., 2003; Knowle, pers. comm., 2003). PSCAA staff also noted that an environmental impact statement (EIS) prepared for a proposed cruise ship terminal project near the Magnolia Bridge in May 2002 might be helpful as a reference in defining existing conditions in the study area. The Port of Seattle (Port) provided a copy of the air quality impact and mitigation assessment for this project, which was eventually sited elsewhere in Seattle (Port of Seattle 2002; Cole, pers. comm., 2003).

Puget Sound Regional Council (PSRC) Principal Transportation Planner Kelly McGourty confirmed that the SIP and Transportation Improvement Plan (TIP) require air quality modeling analyses for a project of this nature in maintenance areas (McGourty, pers. comm., 2003). Ms. McGourty was subsequently contacted at least twice to verify details required for the air quality modeling analysis. Jim Laughlin of the Washington State Department of Transportation (WSDOT) confirmed a recent Federal Highway Administration (FHWA) change in the guidance on selecting intersections for air quality modeling (Laughlin, pers. comm., 2003).

Environmental Consequences

Qualitative analyses for particulate matter and quantitative modeling for CO indicate that this project would meet all air quality conformity requirements, assuming all proposed mitigation measures are carried out.

Air quality modeling shows that for each Build Alternative, operational CO concentrations at all intersections in the study area would continue to meet all applicable ambient air quality standards through the project’s design year of 2030.

Each Build Alternative would generate more construction emissions than the No Build Alternative. The construction activity would be concentrated around the Magnolia Bridge and its approaches for Alternatives A, C, and D.

Purpose

The purpose of this project is to replace the existing Magnolia Bridge structure, approaches, and related arterial connections with facilities that maintain convenient and reliable vehicular and non-motorized access between the Magnolia community and the rest of the City of Seattle. The bridge provides an important link to the Magnolia community in Seattle (see Figures 1 and 2). Because the existing bridge provides the only public vehicular access to the land between North Bay, also referred to as Terminal 91, Smith Cove Park, Elliott Bay Marina, and U.S. Navy property, the project purpose also includes maintenance of access to these areas.

Need

Structural Deficiencies

The City of Seattle has identified the Magnolia Bridge as an important bridge that should remain standing following a “design” seismic event (an earthquake with a peak ground acceleration of 0.3g that is anticipated to happen every 475 years and may measure 7.5 on the Richter scale). Even with the repairs completed following the February 2001 earthquake, the existing bridge is susceptible to severe damage and collapse from an earthquake that is less severe than the “design” seismic event.

The original bridge was constructed in 1929 and has been modified, strengthened, and repaired several times. The west end of the bridge was damaged by a landslide in 1997, requiring repair and replacement of bridge columns and bracing, the construction of six additional supports, and a retaining wall north of the bridge to stabilize the bluff from further landslides. Repairs after the 2001 earthquake included replacement of column bracing at 27 of the 81 bridge supports. A partial seismic retrofit of the single-span bridge structure over 15th Avenue West was completed in 2001. The other spans were not upgraded.

Inspections of the bridge conclude that the concrete structure is showing signs of deterioration. The concrete is cracking and spalling at many locations, apparently related to corrosion of the reinforcing steel. The bridge requires constant maintenance in order to maintain its load capacity, but there does not appear to be any immediate load capacity problem. The existing foundations have insufficient capacity to handle the lateral load and uplift forces that would be generated by a “design” seismic event. The existing foundations do not extend below the soils that could liquefy during a “design” seismic event. If the soils were to liquefy, the foundations would lose their vertical-load-carrying ability and the structure would collapse.

System Linkage

There are three roadway connections from the Magnolia community, with more than 20,000 residents, to the rest of Seattle. As the southernmost of the three connections, the Magnolia Bridge is the most direct route for much of south and west Magnolia to downtown Seattle and the regional freeway system.

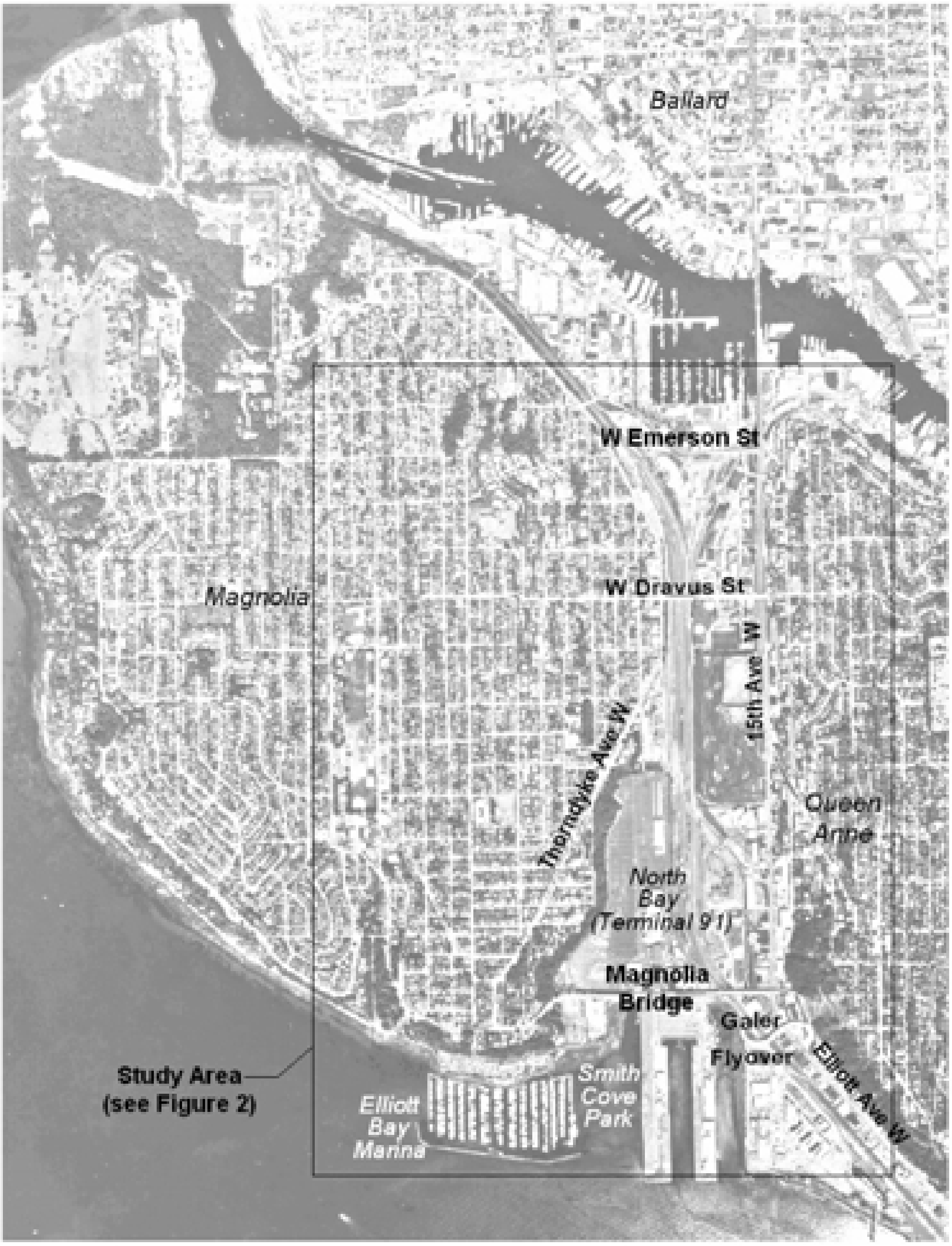


Figure 1
Vicinity Map

In meetings with the public and the Seattle Fire Department, the importance of this route for emergency services has been emphasized. The loss of use of this bridge in 1997 and again in 2001 demonstrated to the City that the remaining two bridges do not provide acceptable operation. During the bridge closure following the February 2001 earthquake, the City addressed community concerns about reduced emergency response time to medical facilities outside of Magnolia by stationing paramedics at Fire Station 41 (2416 34th Avenue West) 24 hours a day.

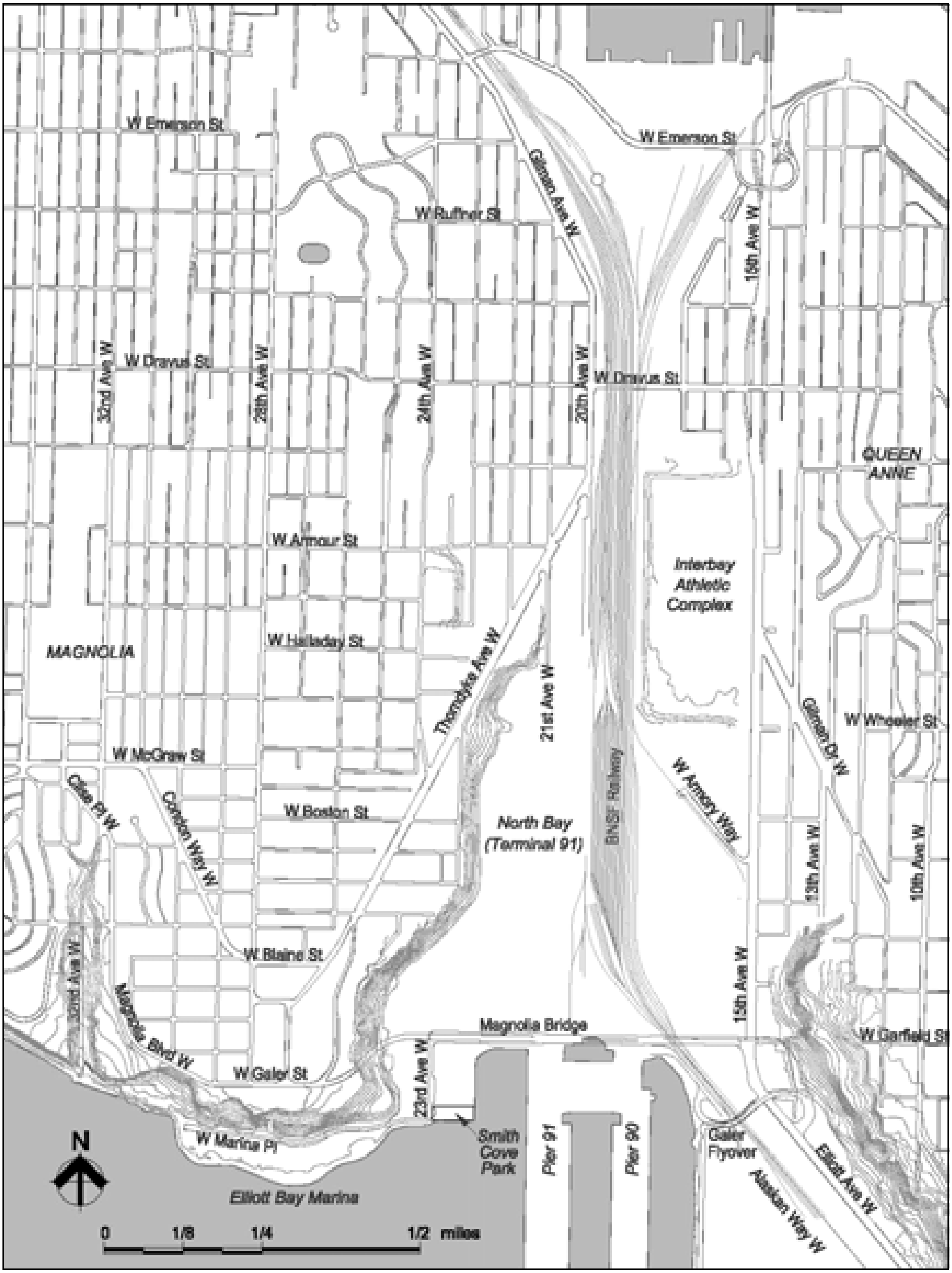


Figure 2
Study Area

Traffic Capacity

The three Magnolia community connections to the 15th Avenue West corridor are adequate for the present volume of traffic. Each of the three connections carries 30 to 35 percent of the 60,100 daily vehicle trips (2001 counts) in and out of the Magnolia community. Loss of the use of the Magnolia Bridge for several months after the February 2001 earthquake, and in 1997 following the landslide at the west end of the bridge, resulted in lengthy 15- to 30-minute delays and increased trip lengths for many of the users of the Magnolia Bridge. These users were required to use one of the two remaining bridges at West Dravus Street and West Emerson Street. Travel patterns in the Magnolia community changed substantially resulting in negative impacts on local neighborhood streets. The increase of traffic through the West Dravus Street and West Emerson Street connections also resulted in congestion and delay for the regular users of these routes. Losing the use of any one of these three bridges would result in redirected traffic volumes that would overwhelm the capacity of the remaining two bridges.

Modal Interrelationships

The Magnolia Bridge carries three of the four local transit routes serving Magnolia and downtown Seattle destinations. The topography of the east side of Magnolia, East Hill, would make access to the 15th Avenue West corridor via the West Dravus Street Bridge a circuitous route for transit. Use of the West Emerson Street connection to 15th Avenue West would add significant distance and travel time for most trips between Magnolia and downtown Seattle.

The Magnolia Bridge has pedestrian facilities connecting the Magnolia neighborhood to Smith Cove Park and Elliott Bay Marina as well as to 15th Avenue West/Elliott Avenue West. These facilities need to be maintained. The Elliott Bay multi-use trail connects Magnolia with downtown Seattle through Myrtle Edwards Park. The trail passes under the Magnolia Bridge along the west side of the BNSF rail yard, but there are no direct connections to the bridge.

Bicycle facilities on Magnolia Bridge need to be maintained or improved. Even with the steep (about 6.3 percent) grade, bicyclists use the Magnolia Bridge in both directions. There are no bike lanes on the bridge, so cyclists use the traffic lanes and sidewalks. Once cyclists cross the bridge, they must either travel with motor vehicles on Elliott Avenue West or find a way back to the Elliott Bay Trail using local east-west streets such as the Galer Flyover.

Transportation Demand

The existing Magnolia Bridge provides automobile access for Port of Seattle North Bay (Terminal 91) to and from Elliott Avenue West/15th Avenue West. Truck access between Terminal 91 and Elliott Avenue West/15th Avenue West is accommodated via the Galer Flyover. Future planned expansion of the Amgen facility on Alaskan Way West and redevelopment of underutilized portions of North Bay and other areas of Interbay will increase demand for traffic access to the Elliott Avenue West/15th Avenue West corridor. The Port of Seattle has a master planning process under way (July 2003) for its North Bay (Terminal 91) property and the Washington National Guard property east of the BNSF Railway between West Garfield Street and West Armory Way. This area contains 82 acres available for redevelopment. There are also 20 or more acres of private property available for redevelopment east of the BNSF Railway between West Wheeler Street and West Armory Way. Redevelopment of the North Bay property will include public surface streets with connections to the replacement for the Magnolia Bridge. Forecasts of future (year 2030) traffic demand indicate that the access provided by the Galer Flyover and West Dravus Street would be inadequate. The capacity provided by the existing Magnolia Bridge or its replacement would also be needed.

Legislation

Seattle Ordinance 120957, passed in October 2002, requires that the Magnolia Bridge Replacement Study: (1) identify possible additional surface roads from Magnolia to the waterfront (avoiding 15th Avenue West and the railroad tracks); (2) obtain community input on the proposed roads; and (3) identify the cost for such roads and include it in the total cost developed in the Magnolia Bridge Replacement Study.

Description of Alternatives

An alignment study process was implemented to help identify the specific bridge replacement alternatives to be studied in the EIS. Twenty-five concepts were developed and screened against the project goals and objectives. This resulted in nine alignment alternatives, identified as A through I, that merited further analysis. These nine went through an extensive public review and comment process as well as project screening criteria and prioritization. Initially, the top four priority alternatives, A, B, D, and H, were identified to be studied in the EIS. Early on, Alternative B was eliminated because it became clear that it violated City shoreline policies and Federal Section 4(f) criteria. Upon detailed traffic analysis, Alternative H was eliminated because two key intersections were predicted to function at a level of service F and could not be mitigated. The next priority, Alternative C, was then carried forward for analysis in the EIS.

Independent of this project, a new north-south surface street will be constructed on Port of Seattle property connecting 21st Avenue West at the north end of North Bay with 23rd Avenue West near Smith Cove Park. In addition, a southbound ramp will be added to the Galer Flyover to accommodate eastbound to southbound Elliott Avenue West traffic movements. The Galer Flyover ramp has been identified as a needed improvement for expected future development of property west of the railroad tracks. Locations for new surface streets through the Port of Seattle property will be determined through the Port's master planning process for the North Bay property. The north-south surface street and ramp are assumed to exist under any Build Alternative, but they are not part of this environmental process.

Typical cross sections and plans of the build and no Build Alternatives are located at the end of this section.

No Build Alternative

The No Build Alternative, shown in Figure 3 and Figure 5, would maintain the existing bridge structure in place with the existing connections at the east and west ends. Long-term strategies for maintaining the existing structure would be required for the No Build Alternative. To keep the existing bridge in service for over 10 years, the following would need to be accomplished:

- An in-depth inspection of the bridge would be required to determine needed repairs and a long-term maintenance program.
- Concrete repairs would be required. These repairs could include injection of epoxy grout into cracks, repair of spalled concrete, and replacement of deficient concrete and grout.
- Preservation measures to slow corrosion of the reinforcement would be required. These measures could include a cathodic protection system.
- Any structural elements that lack the capacity to carry a tractor-trailer truck with a 20-ton gross trailer weight would need to be identified, modeled, and strengthened.

Alternative A

Alternative A would replace the existing bridge with a new structure immediately south of the existing bridge as shown in Figure 4 and Figure 6. The alternative would construct a signalized, elevated intersection (Alternative A – Intersection) in the bridge's mid-span to provide access to the waterfront and the Port of Seattle North Bay property from both the east and west. Connections at the east and west ends of the bridge would be similar to the existing bridge.

An optional half-diamond interchange (Figure 7, Alternative A – Ramps) could be constructed in lieu of the elevated intersection to provide access to the waterfront and the Port of Seattle North Bay property to and from the east only.

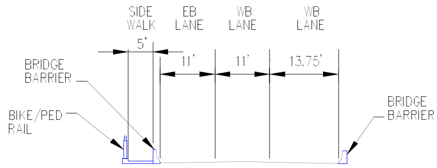
Alternative C

Alternative C would provide 2,200 feet of surface roadway within the Port of Seattle North Bay property between two structures as shown in Figure 4 and Figure 8. The alternative alignment would descend from Magnolia Bluff on a structure running along the toe of the slope. The alignment would reach the surface while next to the bluff before turning east to an intersection with the north-south surface street. The alignment would continue east from the intersection, turning south along the west side of the BNSF rail yard. The alignment would rise on fill and structure, turning east to cross the railroad tracks and connect to 15th Avenue West.

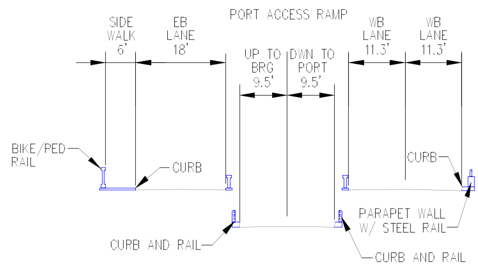
Alternative D

Alternative D would construct a new bridge in the form of a long arc north of the existing bridge as shown in Figure 4 and Figure 9. Connections at the east and west ends of the bridge would be similar to the existing bridge. This alternative would construct a signalized, elevated intersection (Alternative D – Intersection) in the bridge's mid-span to provide access to the waterfront and Port of Seattle North Bay property from both the east and west.

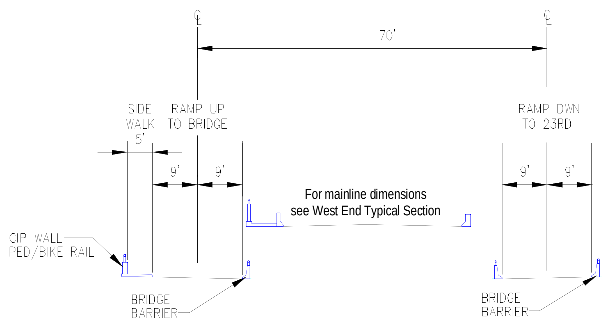
An optional half-diamond interchange (Figure 10, Alternative D – Ramps) could be constructed in lieu of the elevated intersection to provide access to the waterfront and the Port of Seattle North Bay property to and from the east only.



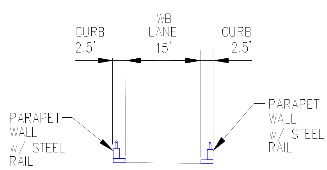
Bridge West End



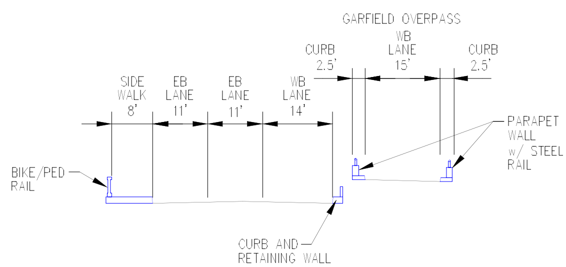
Ramp to Port Access



Ramps to 23rd Avenue West



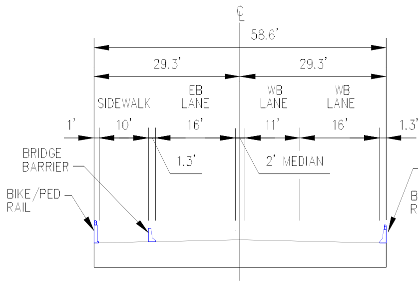
Garfield Overpass



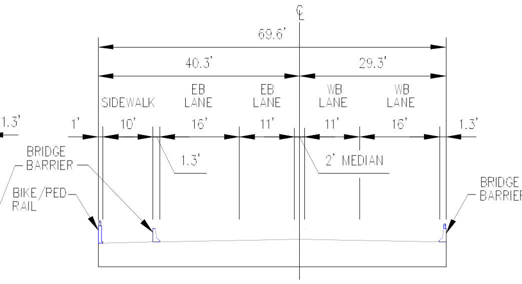
15th Avenue West Connection
Eastbound Off-Ramp
Westbound On-Ramp

NOTE:
Dimensions are approximate and obtained from construction plans and aerial photographs. The information shown has not been field verified.

Figure 3
Typical Sections – No Build Alternative

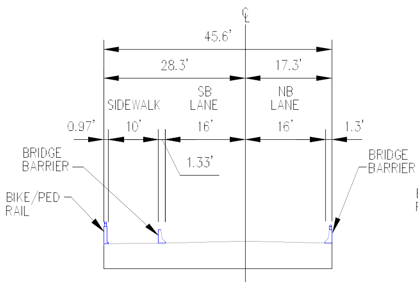


West End



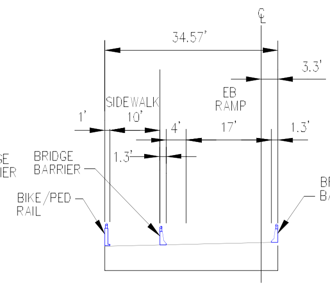
East End

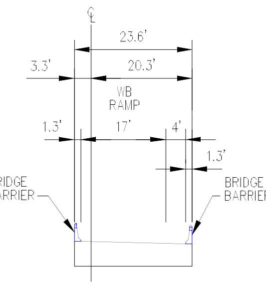
Typical Bridge Structure



T-Ramp

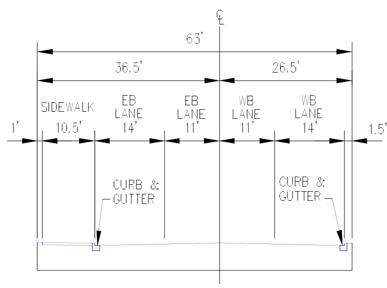
Typical A & D Intersection Option



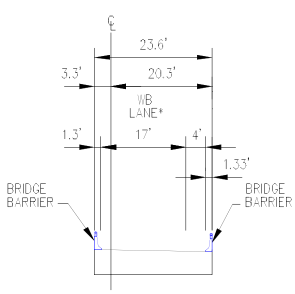


On-Ramp Off-Ramp

Typical A & D Ramp Option

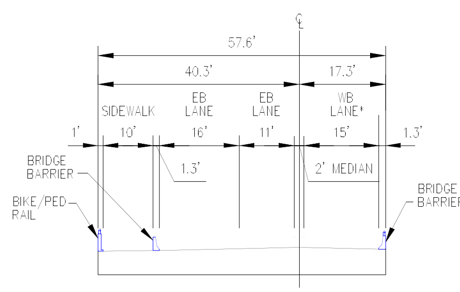


Typical Alternative C Surface Road



Garfield Overpass

* 15' Alternative C
19' Alternative D



15th Avenue West Connection
Eastbound Off-Ramp
Westbound On-Ramp

* 16' Alternative D

Figure 4
Typical Sections – Build Alternatives

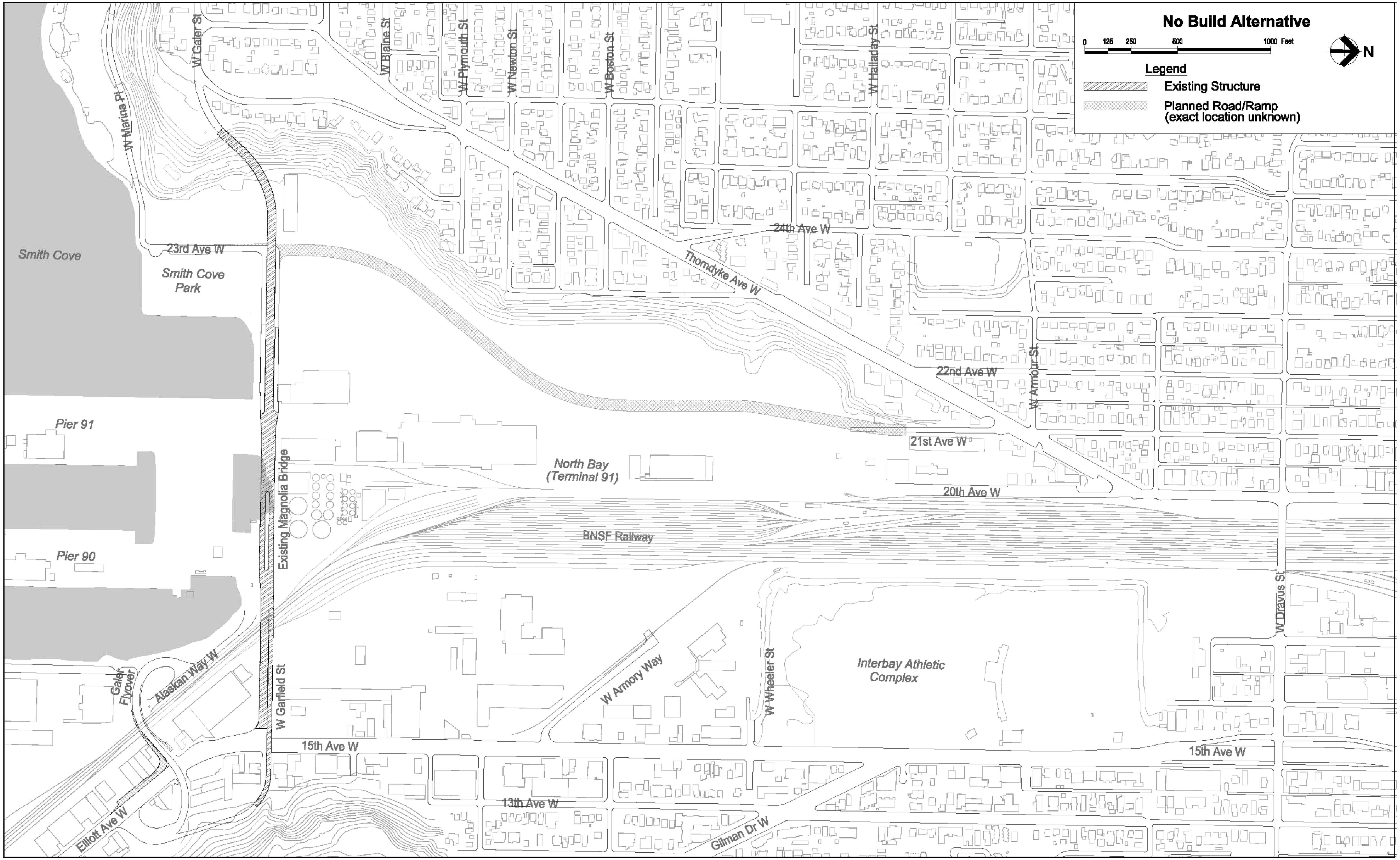


Figure 5 No Build Alternative

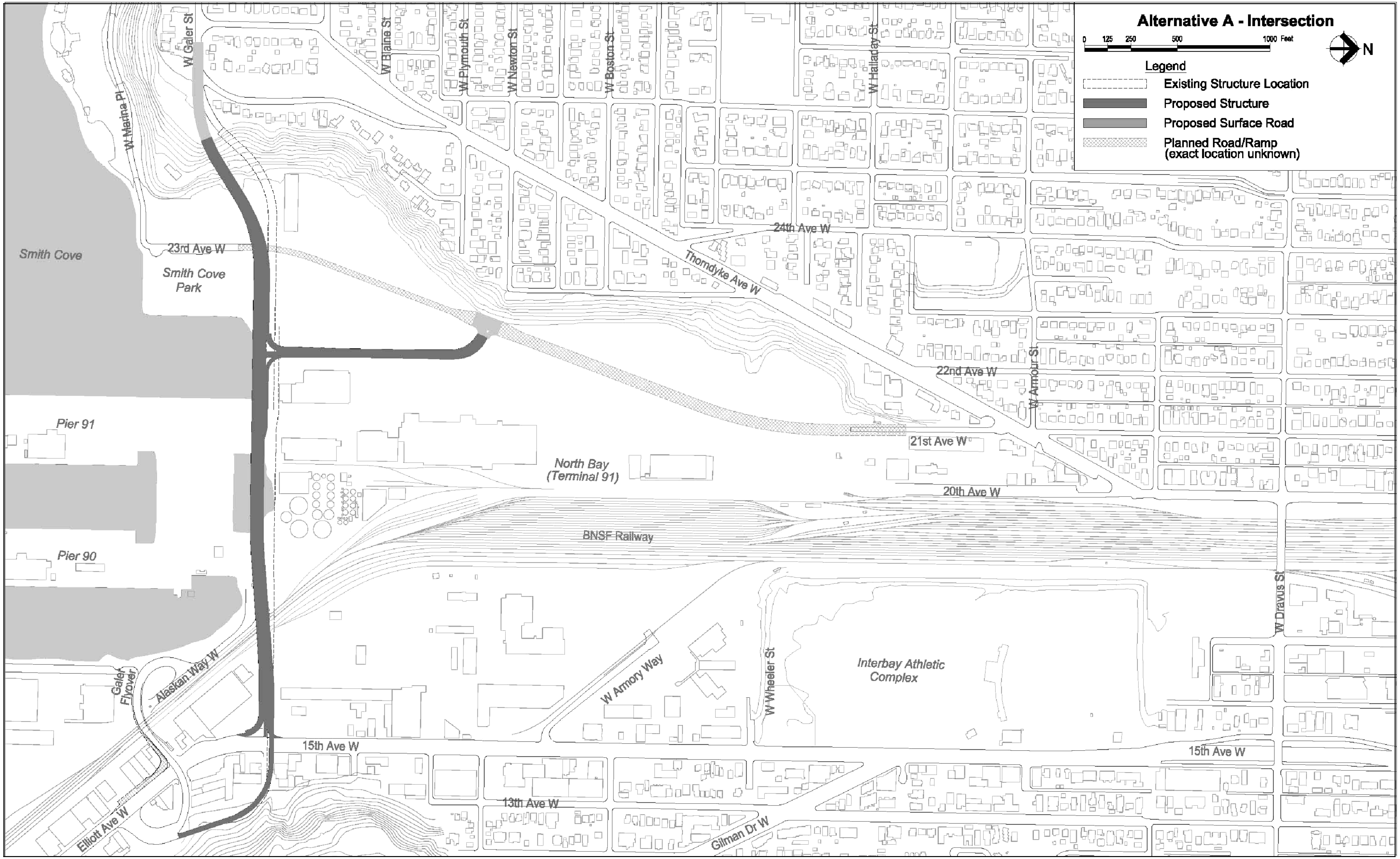


Figure 6 Alternative A - Intersection

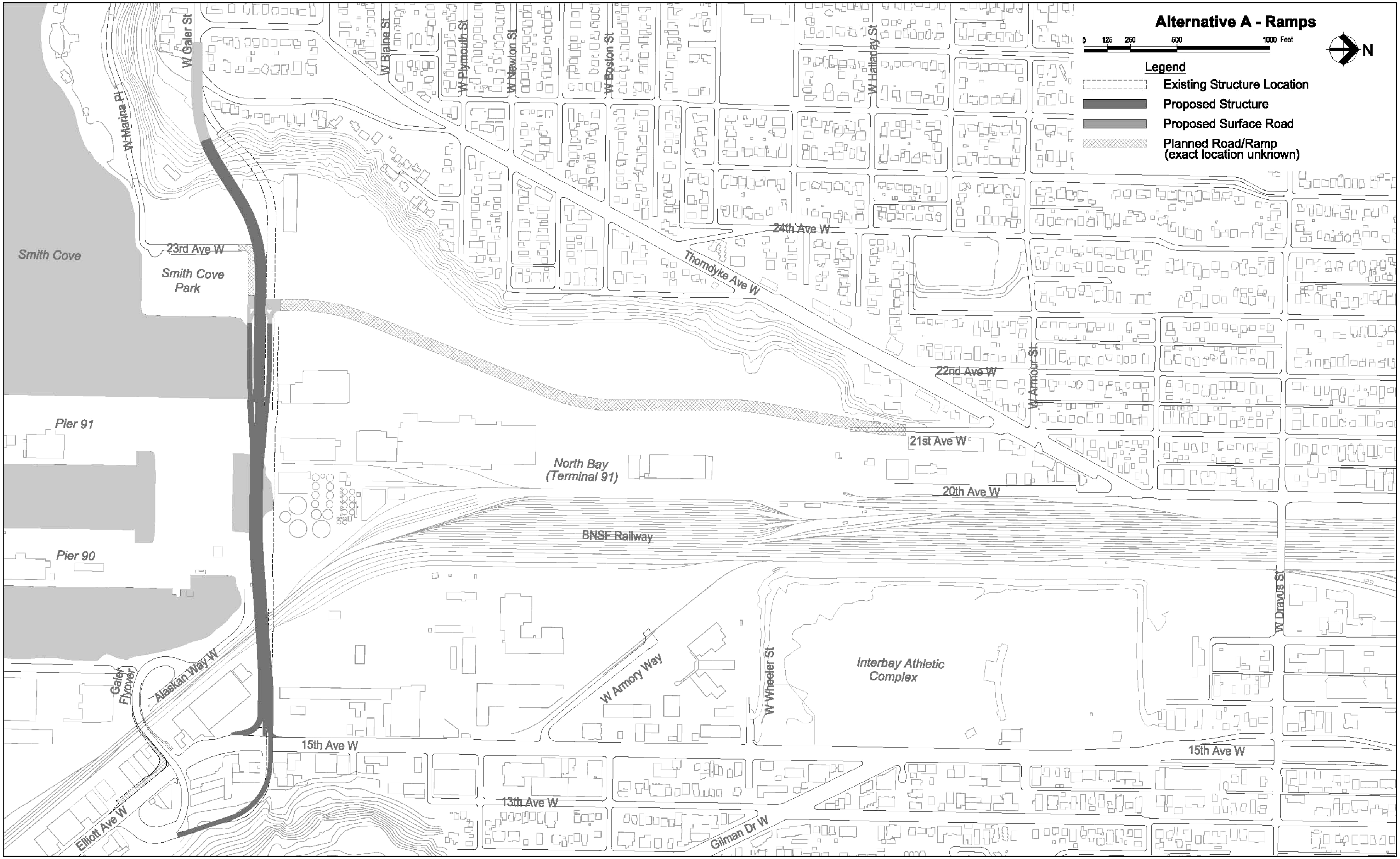


Figure 7 Alternative A - Ramps

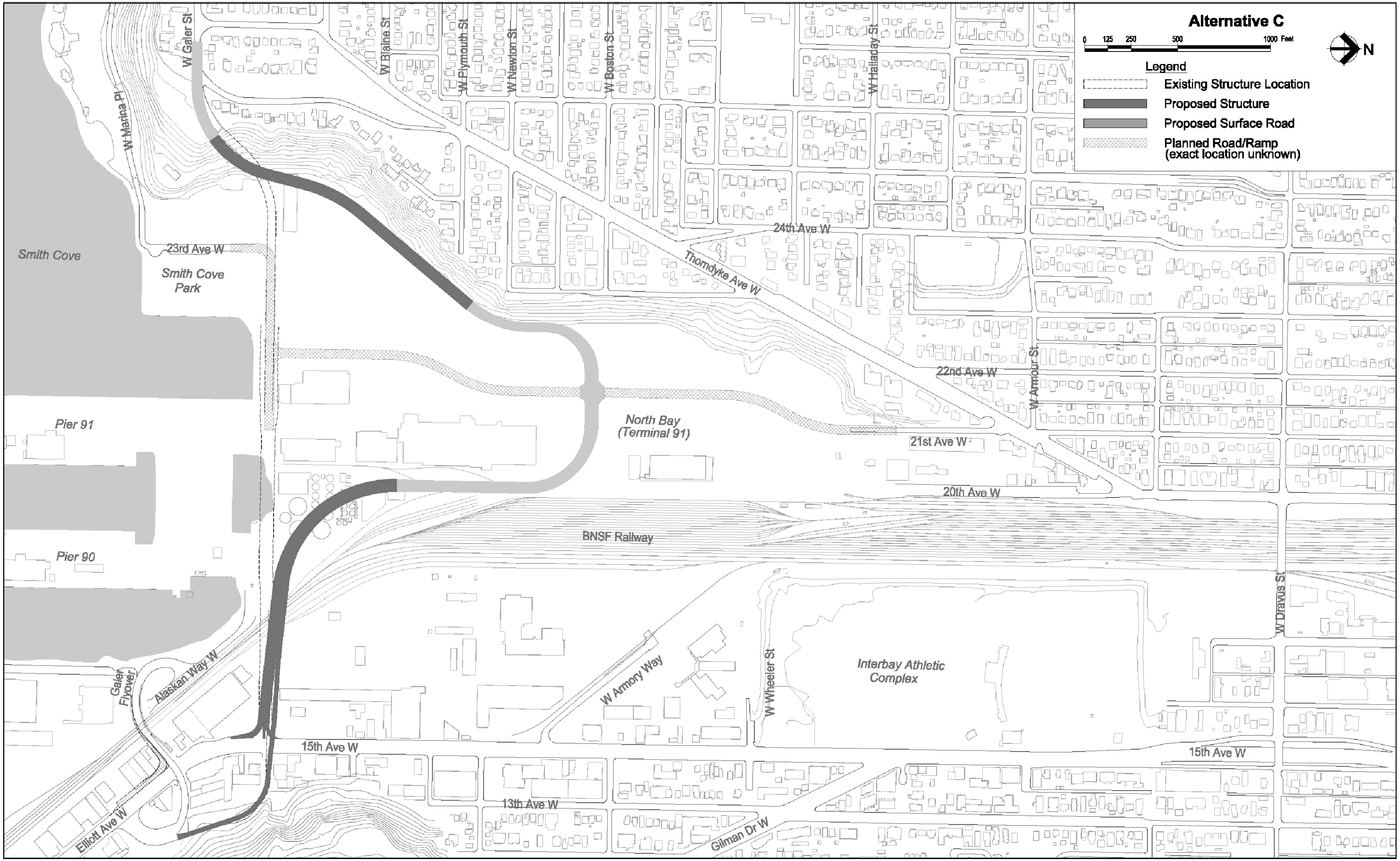


Figure 8 Alternative C

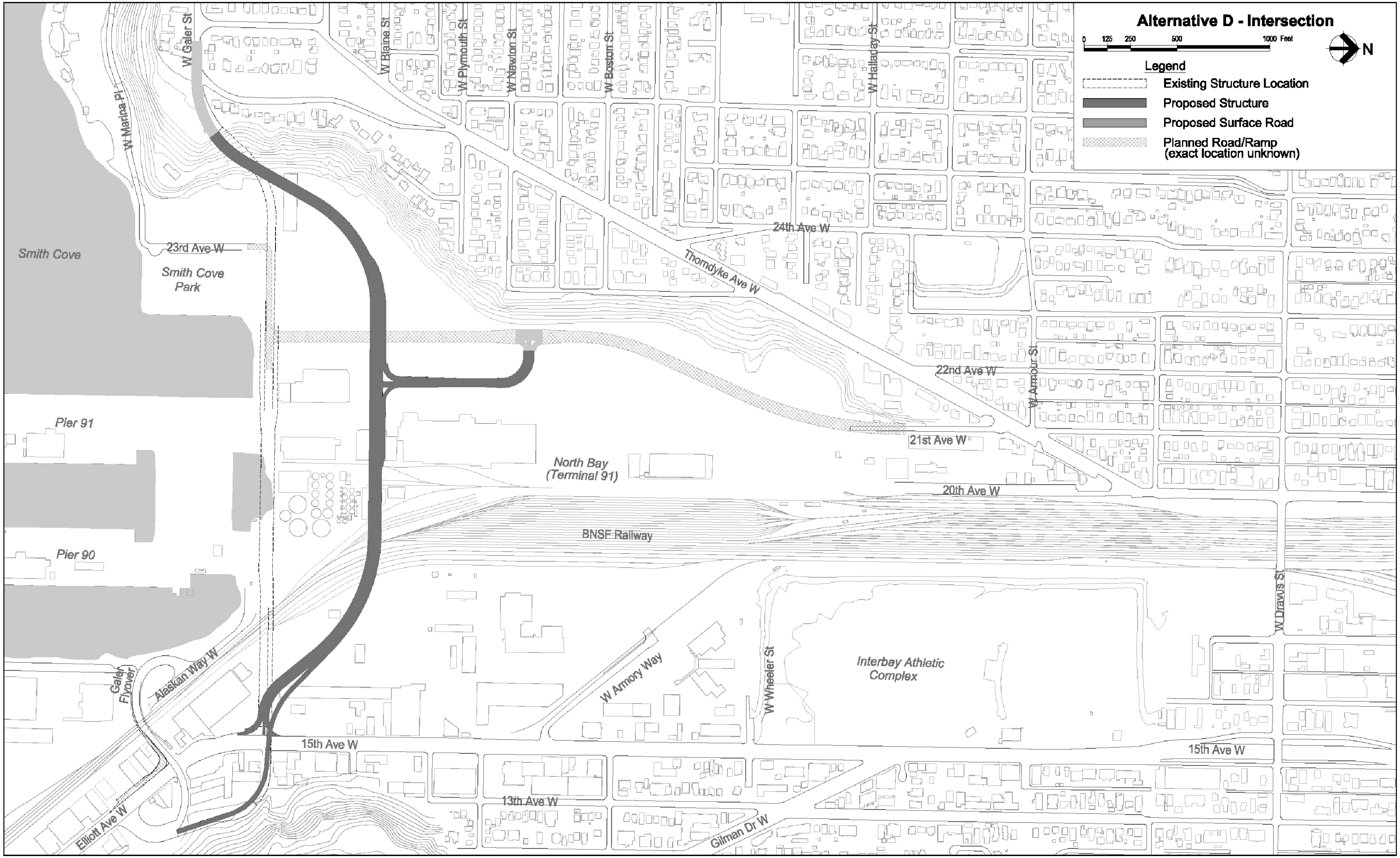


Figure 9 Alternative D - Intersection

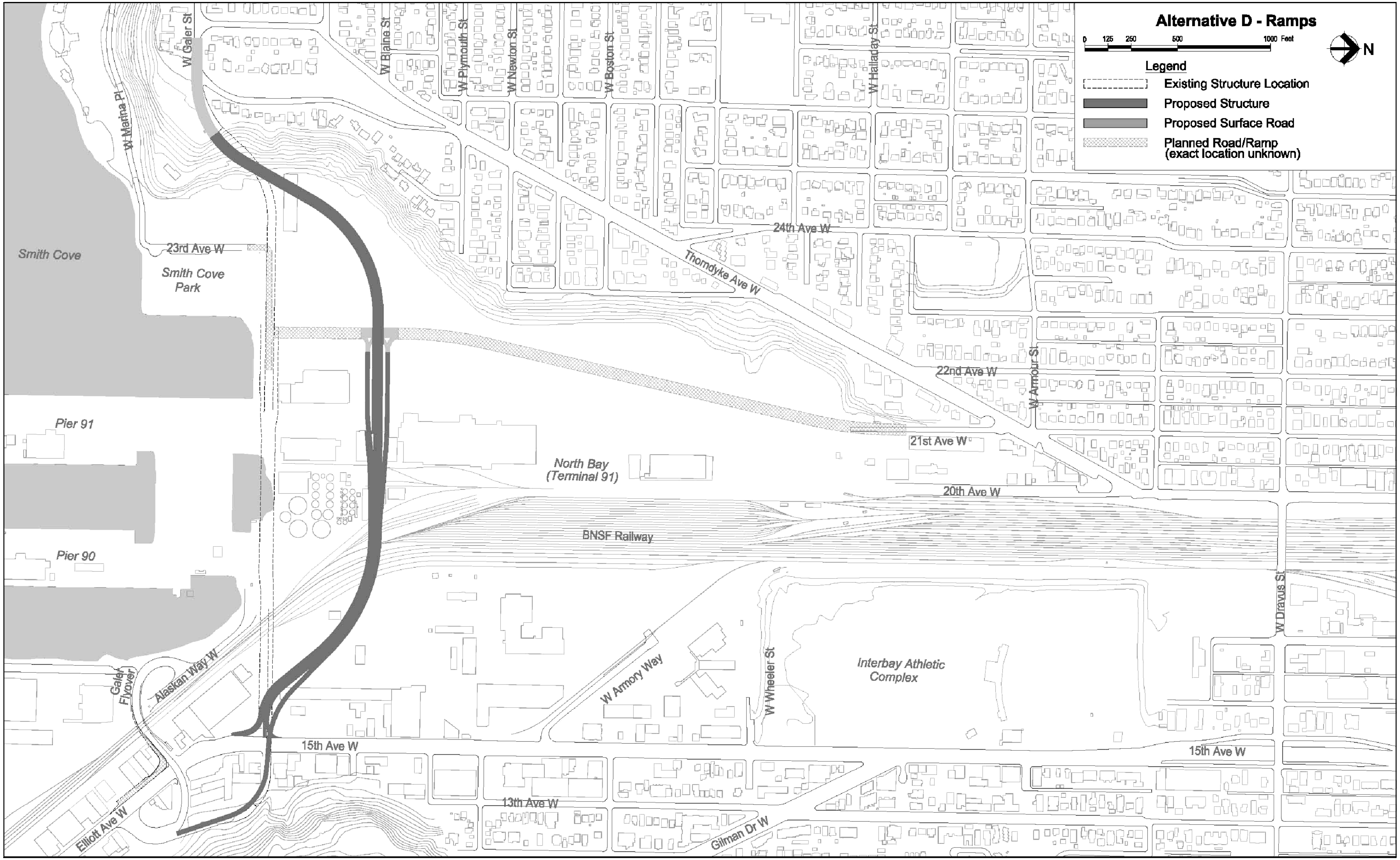


Figure 10 Alternative D - Ramps

To quantify air quality impacts from CO, information about traffic, roadway geometry (existing and proposed), traffic signals, vehicle speeds, and CO background data is needed for the air quality model. How these data were derived, the CO modeling methods used in this study, and the method for estimating PM_{10} impacts are described below.

Traffic

Project traffic engineers prepared the traffic impact analysis based on modeling performed using the Synchro transportation modeling system. This analysis is described in detail in the Traffic and Transportation Discipline Report for this project. Traffic volumes, turning volumes, signal timings, and other parameters pertaining to the physical layout of the traffic lanes are included in the information.

Traffic data for the project were analyzed to identify whether any of the study area intersections are predicted to have a level-of-service (LOS) of D or worse in the year of opening (2010) and/or the design year (2030). Each alternative featured at least three intersections with such LOS values. Therefore, the three intersections with the highest LOS rating for 2010 and 2030 were identified and analyzed for each alternative.

Air Quality Estimation

Potential air quality impacts for this project are associated with the contaminants ozone, PM_{10}, HAPs, and CO. The air quality evaluation for the project focused on this set of contaminants.

At low altitudes in the atmosphere, ozone is not produced directly, but is formed by a complex set of chemical reactions among sunlight, NO_x, and hydrocarbons. Within the portion of the atmosphere accessible by humans, ozone primarily is formed from the precursor chemicals released in the emissions of regional motor vehicle traffic, point sources of air contaminants, and fugitive hydrocarbon emissions.

Ozone is not produced directly but is formed through a complex set of chemical reactions and photochemically enhanced by sunlight. Ozone is generated primarily in large metropolitan areas. Ecology and the PSCAA evaluate ozone as a regional pollutant rather than at a project level. Regional trends show a flat ozone level or a slight decrease since 1999.

PM_{10} concentrations during construction were estimated using the AP-42 document (EPA 1995), which is EPA's compilation of emission values for sources. However, these emissions vary significantly, and EPA has not recommended any models or procedures to accurately determine PM_{10} concentrations along individual roadways. Particulate emissions are best controlled by mitigation measures during construction (see the Mitigation Measures section of this report).

The EPA has identified over 30 HAPs emitted by vehicular traffic. That group includes 13 gaseous compounds, 16 particulate and vapor-phase polyaromatic hydrocarbons (PAHs), and 5 particulate-phase metals. The majority of HAPs are volatile organic compounds (VOCs). The EPA controls HAPs nationally by regulating fuel content and engine requirements. At the regional level, the EPA requires that local TIPs conform to ambient air quality standards for ozone. The PSRC has prepared the current and proposed new TIP Air Quality Conformity Analyses for the Puget Sound area. These TIP analyses document that regional emission levels of VOCs and nitrogen oxides (NO_x) for all projects planned through 2007 are below the established limit for ozone (with separate limits for VOCs and NO_x) and PM_{10} for all analysis years (PSRC 2004a, 2004b).

The U.S. and Washington Clean Air Acts require that all federally funded transportation plans in nonattainment or maintenance areas demonstrate conformity consistent with the *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995).

To demonstrate conformity, a qualitative analysis of particulate matter impacts and quantitative modeling for CO must be performed. Because this study area does not feature any limited access freeways, “hot spot” analyses are required at the worst-performing intersections in the study area. Two models were used for these analyses. Vehicular CO emission rates were calculated using the model MOBILE5b, which is based on data describing the local vehicle fleet and driving conditions. Ambient CO concentrations near the roadway were estimated using the model CAL3QHC, which takes into account the local geography, roadway layout, public access, and meteorological conditions. The CAL3QHC model (version 2.0) estimated ambient CO concentrations at the worst-performing intersections (selected based on the traffic analysis) for existing conditions, 2010 (year of opening), and 2030 (design year). The modeling analysis is described in detail in the Studies and Coordination section of this report. Results of the model are described in the Impacts section.

Background

The study area is an urban area of Seattle north of downtown, with the Puget Sound coastline and Piers 90 and 91 within North Bay/Terminal 91 marking its southern boundary. Land uses include urban residences and shops in the Queen Anne neighborhood to the east and in the Magnolia neighborhood to the west. These neighborhoods are on prominent hills rising hundreds of feet above the low-lying area between them. The south-central portion of the study area features a rail network servicing Port activities on Piers 90 and 91 within North Bay/Terminal 91, which is currently crossed by the elevated Magnolia Bridge. An inactive tank farm, scheduled for decommissioning, is immediately north of the bridge. The north-central study area features a low-lying area of light industry bordered by a golf course and urban residential neighborhoods. Because of the light industrial uses, the PSCAA considers the study area to be less affected by industrial activities than most of the rest of Seattle and King County. No sensitive receptors (schools, churches, hospitals, or libraries) are within 500 feet of any of the alternative footprints.

Climate

The climate in the study area is strongly influenced by the coastal effects of Puget Sound, which borders the south end of the study area. The coastal humidity moderates annual temperatures. Coastal inversions can limit vertical air mixing, but winds generated by the temperature differences along the coast and local terrain provide significant air mixing.

The Western Regional Climate Center collects climatological data at a network of approximately a dozen sites in Seattle and around the Puget Sound. Based on weather data reported in the vicinity, December and January are the coldest and wettest months of the year. Historically, the average maximum temperature for January is 47°F and the average minimum temperature is 37°F. Snowfall is infrequent, with no lasting snowpack. Freezing temperatures are limited, occurring on average from December 1 until March 1.

Average total precipitation is between 35 and 40 inches locally. Approximately 80 percent of the average rainfall occurs from October through April. November, December, and January each average 5 inches or more of precipitation per month (Western Regional Climate Center 2003). July and August typically have an inch or less of precipitation. Because the winters are wet and mild, the growing season is long for moisture-tolerant vegetation.

Weather directly influences air quality. Meteorological factors contributing to air quality include wind speed and direction, atmospheric stability, temperature, sunlight intensity, and mixing depth. Temperature inversions occur when warm air overlies cool air and restricts the ability of the atmosphere to mix and disperse pollutants both vertically and horizontally. Such inversions are associated with high air pollution concentrations, especially near the earth’s surface. Temperature inversions can occur year-round as a result of the coastal effects. They tend to increase in frequency and intensity in late fall and winter, when there is limited surface heating to mix them. At the same time, emissions from wood stoves and motor vehicles, which operate less efficiently during cold weather, tend to increase. Particulate and CO emissions from these sources can be trapped close to the ground, which can lead to violations of the NAAQS.

When the atmosphere is stable, such as when a temperature inversion is present, very little turbulence exists in the surrounding air, and light or variable winds are observed. Under these conditions, air pollutants released into the air mix and dilute slowly into the atmosphere. Elevated pollutant concentrations can persist for extended periods of time.

Air Quality

Air Pollutants of Concern

The primary air pollutants associated with transportation projects are CO, particulate matter (PM_{10} and $PM_{2.5}$), and ozone. Transportation projects also emit ozone precursors, including hazardous air pollutants, which can be significant regionally, although the local climate limits the frequency and extent of elevated ozone levels. The EPA, Ecology, and the PSCAA regulate air quality in the study area. The SIP requirements include an analysis of the impacts of CO and particulate matter for transportation projects in maintenance areas.

Carbon Monoxide

Carbon monoxide is a colorless, odorless, and poisonous gas that reduces the oxygen-carrying capability of the blood by displacing oxygen in hemoglobin. The major sources of CO are motor vehicle traffic, wood stoves, and burning of organic and fossil fuels. The 2001 PSCAA emission inventory attributes 88 percent of regional CO emissions to vehicles, 10 percent to stationary sources, and 2 percent to point sources (PSCAA 2003a). The effects of CO are usually localized and occur near congested roads and intersections during fall and winter. Highest concentrations are associated with light winds and stable atmospheric conditions. CO concentrations in most areas have been decreasing over time because of more stringent federal emission standards for new motor vehicles and the gradual replacement of older, more polluting vehicles. CO levels in major urban areas have been declining, but they are leveling off or increasing in areas with rapid growth in traffic volumes, which offset vehicle emission reductions.

Particulate

Air pollution in the form of particulate matter includes small particles of dust, soot, and organic matter suspended in the atmosphere. Particulate matter can affect visibility, plant growth, lung function, and building materials. Primary sources of particulate matter in the study area include motor vehicles, combustion, wood stoves, roadway dust, and construction activities. Secondary particulate also can be formed by the interaction of gases in urban areas. Particulate levels have historically been regulated by ambient standards on PM_{10}. Particles in this size range are considered inhalable. High PM_{10} concentrations can occur during periods of air stagnation in fall and winter, when wood is used more frequently for heat and engines run less efficiently. In addition, a finer resolution of the particulate standard has been developed. The $PM_{2.5}$ standard covers very fine particulate less than 2.5 microns in size (the fraction of the PM_{10} particulate that is inhalable). $PM_{2.5}$ is predominantly generated by combustion or thermal sources (e.g., motor vehicles, industrial facilities, and power generation plants), as well as residential sources (e.g., fireplaces and wood stoves). Both wood and propane are used in the study area for heating.

The 2001 PSCAA emission inventory attributes 7 percent of regional PM_{10} emissions and 12 percent of regional $PM_{2.5}$ emissions to vehicles, 91 percent of PM_{10} emissions and 84 percent of $PM_{2.5}$ emissions to stationary sources, and 2 percent of PM_{10} emissions and 4 percent of $PM_{2.5}$ emissions to point sources (PSCAA 2003a).

Ozone

Ozone is a secondary pollutant formed in the atmosphere by the interaction of precursor chemicals—generated primarily in large metropolitan areas—and sunlight. Because the photochemical process takes several hours, communities downwind of Puget Sound urban areas have the highest measurement concentrations. Ozone levels are generally within national and regional standards in part because the mild climate limits the number of hot, sunny days favorable for ozone formation. The PSCAA determines compliance with the ozone standard. Ecology and the PSCAA evaluate ozone on a regional rather than project-level scale.

Ambient Air Quality Standards

The EPA, Ecology, and the PSCAA regulate air quality in the study area. Under the Clean Air Act, EPA has established NAAQS for criteria pollutants, which specify maximum concentrations for CO, PM_{10}, $PM_{2.5}$, ozone, sulfur dioxide, lead, and nitrogen dioxide. The applicable standards are presented in Table 1. Ecology and the PSCAA have adopted ambient air quality standards that closely match the federal NAAQS.

Table 1
Summary of National and Regional Ambient Air Quality Standards

Pollutant	Standard	Note	National Primary Standard	National Secondary Standard	Ecology Standard	PSCAA Standard
Carbon Monoxide	1-Hour Average	Not to be exceeded more than once per year	35 ppm	None	35 ppm	35 ppm
	8-Hour Average	Not to be exceeded more than once per year	9 ppm	None	9 ppm	9 ppm
PM_{10}	Annual Arithmetic Mean	Attainment based on three-year average	50 µg/m^3	50 µg/m^3	50 µg/m^3	50 µg/m^3
	24-Hour Average Concentration	--	150 µg/m^3	150 µg/m^3	150 µg/m^3	150 µg/m^3
$PM_{2.5}$[1]	Annual Arithmetic Mean	Attainment based on three-year average of annual mean concentrations from single or multiple monitors	15 µg/m^3	15 µg/m^3	15 µg/m^3	15 µg/m^3
	24-Hour Average Concentration	--	65 µg/m^3	65 µg/m^3	65 µg/m^3	65 µg/m^3
Nitrogen Dioxide	Annual Arithmetic Mean	Should never be exceeded	0.053 ppm	0.053 ppm	0.05 ppm	0.053 ppm
Ozone	1-Hour Average	Not to be exceeded more than once per year	0.12 ppm	0.12 ppm	0.12 ppm	0.12 ppm
	8-Hour Average	--	0.08 ppm	0.08 ppm	0.08 ppm	0.08 ppm

Notes: ppm = parts per million; µg/m3 = micrograms per cubic meter of air; PSCAA = Puget Sound Clean Air Agency; PM_{10}, $PM_{2.5}$ = particulate matter less than 10 and 2.5 microns, respectively
Source: 40 CFR Part 50 (1988)

Existing Air Quality

The PSCAA and Ecology maintain air quality monitoring stations for these pollutants in Seattle and around the Puget Sound region. The regional ozone monitoring sites are generally in rural areas surrounding the Sound. The chemicals that react with sunlight to produce ozone are primarily generated in the large metropolitan areas. Because the process takes several hours, the communities downwind of the large urban areas have been found to have the highest ozone concentrations. The PSCAA indicates that the most representative monitoring sites are the nearby Queen Anne station, which has measured visibility and inferred $PM_{2.5}$ levels since early 2001, and the Beacon Hill site southeast of downtown Seattle, which serves a nearby area with a similar development pattern (Knowle, pers. comm., 2003). The Beacon Hill site has measured $PM_{2.5}$, ozone, and visibility since 1999, and it was expanded in 2002 to also include CO, sulfur dioxide, and nitrogen dioxide monitoring. Table 2 shows maximum ambient air pollutant concentrations measured at local and regional monitoring sites from 1999 to 2002.

At stations outside the industrial Duwamish section south of downtown Seattle and the study area, maximum annual average and 24-hour average PM_{10} values have consistently decreased since 1990. The maximum $PM_{2.5}$ annual average value measured at representative monitoring sites since 1999 is 38 micrograms per cubic meter (µg/m^3), which is well below the NAAQS of 65 µg/m^3.

Table 2
Summary of PSCAA Local and Regional Ambient Air Quality Monitoring Data 1999 - 2002

Pollutant	Queen Anne				Beacon Hill				Greater Seattle[2]				Puget Sound Region [3]				NAAQS, Ecology, and PSCAA
	Year				Year				Year				Year				
	99	00	01	02[1]	99[1]	00[1]	01[1]	02	99	00	01	02	99	00	01	02	
CO 2nd max 8-hour	-	-	-	-	-	-	-	2.0	5.9	5.5	6.5	5.0	6.6	5.7	5.2	4.5	9
$PM_{2.5}$ mean 24-hour	-	-	-	6.4	8.8	9.1	8.5	8.6	11.8	13.2	12.3	12.4	12.2	13.3	12.3	11.7	15
98% 24-hour	-	-	-	18	26	25	21	25	44	35	28	35	45	49	32	47	65
max 24-hour	-	-	-	23	27	31	38	31	46	44	43	43	60	80	60	77	-

[1] Indirectly inferred from nephelometer backscatter data
[2] Greater Seattle maximum CO concentrations were measured in the University District at 1307 NE 45th Street. Maximum $PM_{2.5}$ concentrations were measured in the industrial Duwamish area.
[3] PSCAA CO maximums were measured in Tacoma (1999) and Lynnwood (2000 and 2001). $PM_{2.5}$ maximums were mostly from the Tacoma area.
Notes: PSCAA = Puget Sound Clean Air Agency; NAAQS = National Ambient Air Quality Standards; CO = carbon monoxide; $PM_{2.5}$ = particulate matter less than 2.5 microns in size.
Sources: PSCAA 2003a, 2003b

Based on historical monitoring and because of effective control strategies, King County and the entire Puget Sound area are considered to be in attainment for all criteria air pollutants, although much of Seattle (including the study area) is included in maintenance areas for PM_{10}, CO, and ozone. Therefore, air quality would not cause adverse ambient health effects on people, animals, or vegetation. The PSCAA maintenance plans for those pollutants require that all transportation projects demonstrate conformity with the Clean Air Act consistent with the *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995).

Background CO Concentration

This analysis incorporates the 8-hour average background CO concentration of 0.7 parts per million (ppm) and a 1-hour average CO concentration of 0.8 ppm, which the PSCAA recommends for the Puget Sound area (Anderson, pers. comm., 2003). These background levels, which are based on local research by the University of Washington (Larson et al. 1993), are also being used in the proposed regional CO budget analysis for motor vehicle emissions.

Air Quality Impacts of the Existing Road Network

CAL3QHC modeling, documented in the Impacts section of this report, estimates the maximum impacts and ambient CO concentrations associated with operation of the current roadway network in 2003. These results (see Table 3) are well below the 8-hour average CO NAAQS of 9 ppm.

Table 3
Estimated 2003 Maximum 8-Hour Average CO Impacts and Ambient Concentrations (in parts per million)

Location	NAAQS	2003 Traffic CO Contributions	2003 Ambient CO Concentrations
Alaskan Way & Galer Flyover	9	0.7	1.4
15th Ave W SB ramps & W Dravus St	9	3.3	4.0
20th Ave W & W Dravus St	9	3.3	4.0

Notes: SB = southbound; NAAQS = National Ambient Air Quality Standards; CO = carbon monoxide

Regulatory Framework

Attainment and Maintenance Area Status

Based on historical monitoring and because of effective control strategies, King County and the entire Puget Sound area are considered to be in attainment for all criteria air pollutants, although much of Seattle (including the study area) is included in maintenance areas for PM_{10}, CO, and ozone.

Conformity Analysis Requirement

The federal Clean Air Act, the federal Transportation Equity Act for the 21st Century (TEA-21), and the Washington Clean Air Act require that regional transportation plans—and individual projects within these plans in nonattainment or maintenance areas—demonstrate conformity with Clean Air Act requirements. The *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995) documents the methods required to analyze conformity at the project level.

State Implementation Plan and Transportation Improvement Program

This project is consistent with the goals and methods in Ecology's SIP. All transportation control measures in the SIP have been implemented.

This project is included in the PSRC's 2003-2005 TIP, which meets regional conformity requirements of the Clean Air Act.

Studies

Induced Traffic Growth

This project is not expected to induce traffic growth. The project would replace an existing bridge and upgrade existing access to surrounding neighborhoods. No new traffic capacity would be added. The study area and surrounding urban neighborhoods feature little vacant land. Future projects would require redevelopment rather than new groundbreaking.

Vehicle Emissions

MOBILE5b is the model the EPA recommends to determine emission factors in air quality analyses. MOBILE5b is an updated version of the Mobile Source Emission Factor Model computer program, which was developed by the EPA to calculate emission factors from highway motor vehicles. Because MOBILE5b accounts for the gradual replacement of older vehicles with newer, less-polluting vehicles, the predicted emission rates for future years are lower than current emission rates with all else being equal. As recommended by the EPA, MOBILE5b uses emissions at a speed of 2.5 miles per hour (mph) to estimate idle emission factors (EPA 1994). MOBILE5b emission rates for free-flow speeds (2.5, 10, 15, 20, 27, 33, 40, 45, and

55 mph) were estimated for 2003 and predicted for 2010 and 2030. Model input was consistent with the regional vehicle inspection and maintenance (I&M) program.

The PSRC prefers to share MOBILE5b modeling results for the Puget Sound region with analysts working on transportation projects in the area to ensure consistency. Principal Planner Kelly McGourty of the PSRC provided the MOBILE5b model output representative of the region.

Intersection Selection

The conformity demonstration, made necessary by the SIP and TIP, requires "hot spot" analysis at worst-performing intersections. Intersection selection, in accordance with the *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995), has historically been the top three signalized intersections with the highest volumes in the design year and the worst three signalized intersections with the lowest LOS (among those with LOS D or worse). WSDOT confirmed that the volume criterion has recently been dropped; the LOS criterion now defines how many, if any, intersections must be modeled. When selecting among intersections with the same LOS values, the PSRC recommends choosing the intersection with the longest delay because increased delays are more likely to cause air quality impacts (McGourty, pers. comm., 2003).

For the air quality modeling analysis, the proposed project alternatives can be simplified into one alternative alignment. Alternatives A, C, and D and each of their options match the intersection architecture, alignment, and traffic volumes of the No Build Alternative. The analyses of the CO levels of those alternatives were combined, and the results of the analyses are reported together. Table 4 presents the intersections selected for "hot spot" analysis. Documentation of the LOS and intersection delays for all study area intersections under existing conditions, the project opening year of 2010, and the design year of 2030 is included in Appendix A.

Table 4
Worst Intersection LOS, All Alternatives

Location	2030 AM		2030 PM	
	LOS	Delay (seconds)	LOS	Delay (seconds)
Alaskan Way & Galer Flyover	D	53.7	F	103.8
15th Ave W SB ramps & W Dravus St	C	20.4	E	73.9
20th Ave W & W Dravus St	B	19.0	E	71.4

Notes: SB = southbound; LOS = level-of-service
Source: Shapiro and Associates, Inc. 2003

For each alternative, the three intersections identified in the analysis were modeled to estimate maximum traffic CO impacts during worst-case traffic conditions for each of the three time periods (existing, year of opening, and design year). Those impacts were reviewed to track trends in local CO impacts and were added to the background concentration to predict worst-case ambient CO levels, which were compared with the CO NAAQS. Low background levels of CO in the region reduced the likelihood that "hot spot" areas would exceed NAAQS.

Air Quality Modeling

CAL3QHC version 2.0 is a Gaussian-type line-source air pollutant dispersion model. It was developed by the EPA based on a model in California (CALINE3). CAL3QHC is the recommended model for predicting pollutant concentrations near intersections. CAL3QHC input variables include MOBILE5b free-flow and calculated idle emission factors, traffic volumes, LOS values, signal timing, roadway geometry, site characteristics, and meteorological conditions. Appendix B documents the input values for the CAL3QHC modeling.

This analysis incorporates the 1-hour average background CO concentration of 0.8 ppm and the 8-hour average background CO concentration of 0.7 ppm. The PSCAA recommended these values, which are based on local research, for the Puget Sound Area (Anderson, pers. comm., 2003).

CAL3QHC model receptors were placed in locations where the public could be exposed to maximum concentrations, consistent with the EPA *User's Guide to CAL3QHC Version 2.0* (EPA 1992b). Each receptor was placed at a distance that represents the edge of the air mixing zone, generally on the sidewalk or shoulder, which is the closest that the CAL3QHC model allows receptors to be located.

In this analysis, approximately 50 receptors were placed at intervals of 75 feet or less along both sides of each roadway approach. Most receptors are considered "at grade" because the roadside terrain at these urban intersections is generally consistent with the roadway surface. Receptors were positioned 6 feet above the ground along each side of each road approaching the intersection, except on the elevated Galer Flyover, which does not feature a sidewalk or walkway. If initial modeling found the highest concentrations at receptors located the farthest from the intersection, an additional analysis would have been performed. Additional receptors would have been added, and the model rerun to confirm that the highest concentration that the public could be exposed to had been obtained.

CAL3QHC predicts maximum 1-hour average CO impacts from traffic activity. To verify compliance with the 8-hour CO NAAQS, model-predicted impacts were adjusted by the EPA-recommended persistence factor of 0.7 (EPA 1992a). Background concentrations were then added to estimate maximum ambient 1-hour average and 8-hour average CO concentrations, which were then compared against the CO NAAQS of 35 ppm (1-hour average) and 9 ppm (8-hour average). Only the highest concentration of CO predicted for each intersection is reported for each analysis year (2003, 2010, and 2030).

Model Intersection Layout and Receptor Locations

Figures 11 and 12 show the current and proposed configurations of the intersections selected for modeling: Alaskan Way and the Galer Flyover, 15th Avenue West southbound ramps and West Dravus Street, and 20th Avenue West and West Dravus Street. Receptors were placed at the edge of the mixing zone 10 feet from the nearest traffic lane along each side of each approach road with public access. The only approach without public access is the elevated Galer Flyover to Alaskan Way. Receptors were placed 50 to 75 feet apart at an elevation of 6 feet above the ground. At least six receptors were placed on each side of each approach route.

Project Data and Assumptions

Appendix A documents the LOS and intersection delays predicted for all study area intersections. Appendix B shows the data and input parameters used in the CAL3QHC air quality modeling.

The lane configurations for each intersection can be seen in Figures 11 and 12. Peak traffic volume is documented in the Traffic and Transportation Discipline Report for this project.

Indirect Air Quality Impacts

Because the surrounding neighborhoods are fully built out (i.e., there is no vacant land), development that could affect air quality in the study area would likely be limited to redevelopment of the low-lying industrial areas in Interbay and Piers 90 and 91 in North Bay/Terminal 91. The Amgen facility south of the Galer Flyover and west of the BNSF railroad tracks has the necessary permits to expand its operations by 50 percent. The nature and extent of future industrial or commercial activity in Interbay or at the terminals are difficult to predict. The PSCAA would regulate all facilities with the potential to affect air quality to ensure they comply with all applicable air quality regulations and ambient air quality limits.

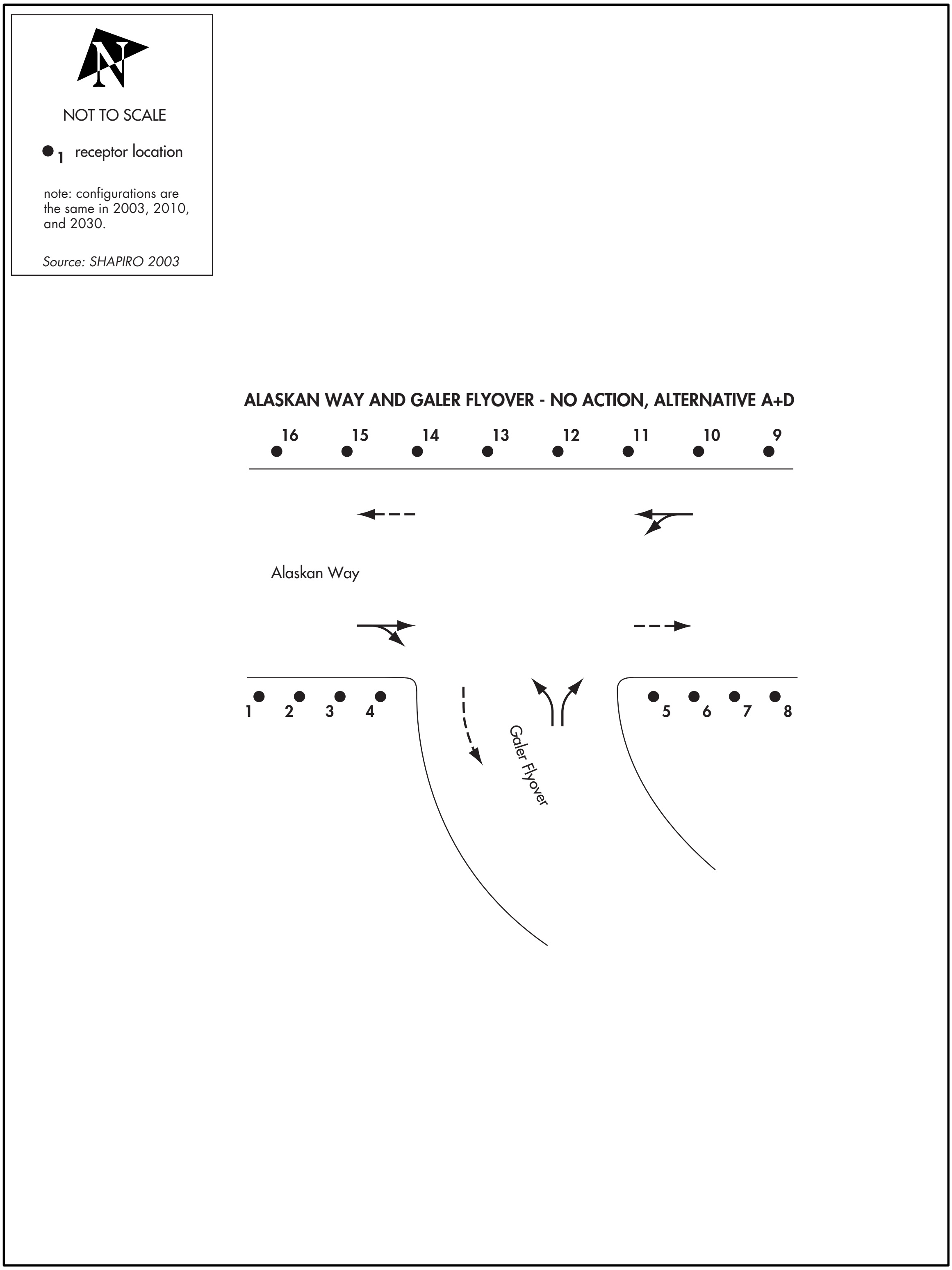


Figure 11
Receptor Locations - Galer Flyover

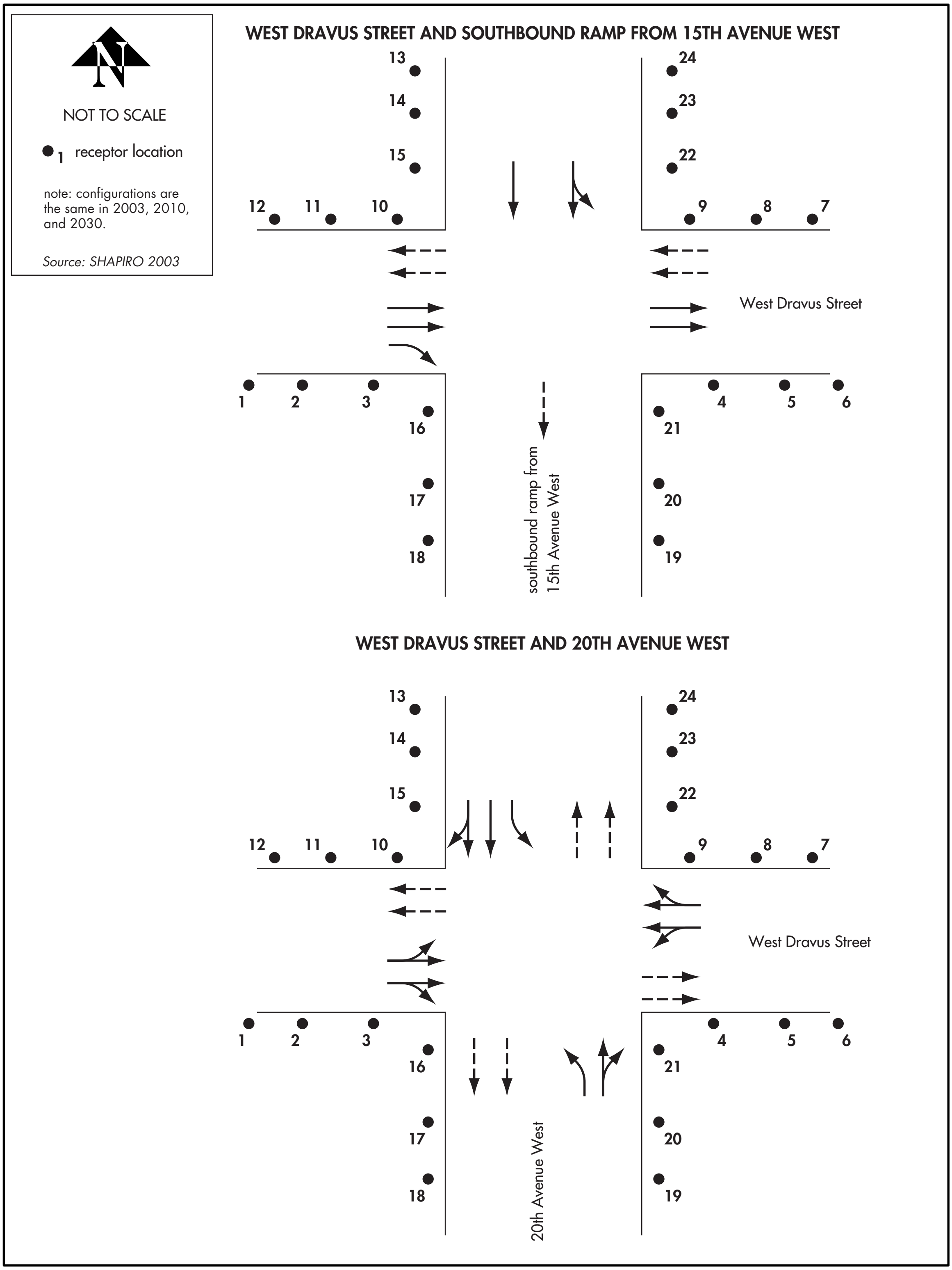


Figure 12
Receptor Locations - Dravus Street

The project would replace the existing bridge and, under most alternatives, would upgrade parts of the existing road network in the vicinity to smooth traffic through Interbay and between Magnolia, Queen Anne, and other parts of Seattle. No freeways, ramps, or access points for such facilities exist in the study area. The majority of project roadways would feature public access on sidewalks.

As described under Intersection Selection in the Studies and Coordination section of this report, the proposed project alternatives could be simplified to one alternative for the air quality modeling analysis. Alternatives A, C, and D and each of their options match the intersection architecture, alignment, and traffic volumes of the No Build Alternative. Traffic flow patterns would be similar to existing conditions, with no new connections to the east toward Queen Anne. Traffic growth on local streets in east Magnolia would increase annually by 1.5%, for a net increase in traffic of 50% by the design year of 2030. The analyses of the CO levels of those alternatives were combined, and the results of the analyses are reported together.

No Build Alternative

Maximum CO concentrations at intersections in 2003, 2010 (year of opening), and 2030 (design year) are presented in Table 5.

Table 5
Calculated Maximum Ambient CO Concentrations, All Alternatives (in Parts per Million)

Location	NAAQS	2003	2010 Year of Opening	2030 Design Year
1-Hour Averaging Time				
Alaskan Way & Galer Flyover	35	1.8	1.9	1.6
15th Ave W SB ramps & W Dravus St	35	5.4	3.6	3.0
20th Ave W & W Dravus St	35	5.4	3.3	3.3
8-Hour Averaging Time				
Alaskan Way & Galer Flyover	9	1.4	1.7	1.3
15th Ave W SB ramps & W Dravus St	9	3.9	2.7	2.2
20th Ave W & W Dravus St	9	3.9	2.5	2.5

Notes: SB = southbound; NAAQS = National Ambient Air Quality Standards; CO = carbon monoxide
1-hour average ambient CO max = (CAL3QHC 1-hour max impact)+0.8 ppm background
8-hour average ambient CO max = (CAL3QHC 1-hour max impact)(0.7 persistence factor)+0.7 ppm background
Source: CAL3QHC model runs

CAL3QHC modeling results show that the maximum ambient CO concentrations at the worst-performing signalized intersections in the study area are well below the NAAQS for CO and would remain below the standard through 2030 (Table 5). The maximum 8-hour average CO impact at any modeled intersection in 2003 was 3.9 ppm. This maximum occurred in two places: (1) on the north side of West Dravus Street 50 feet west of its intersection with the 15th Avenue West southbound ramps, and (2) on the north side of West Dravus Street 100 feet west of its intersection with 20th Avenue West.

In the future, CO concentrations are expected to drop as decreases in vehicle emissions offset the slight increase in forecast traffic levels. The maximum predicted ambient CO concentration after the project opens (2010) is 2.7 ppm. That predicted maximum is forecast to occur within 100 feet of the 15th Avenue West and West Dravus Street intersection, north of the east approach on West Dravus Street. A receptor along the west side of the 20th Avenue West south approach 150 feet from the 20th Avenue West and West Dravus Street intersection has the highest predicted impact in 2030 (2.5 ppm).

CO Impact Analysis

Existing CO levels are estimated to be well below the NAAQS for CO, and levels are predicted to stay below this standard and applicable local air quality standards through 2030 (design year). Therefore, no CO impacts are anticipated. The No Build Alternative conforms with the TIP and the requirements of the 1990 Clean Air Act.

Alternatives A, C, and D

Expected operational conditions under Alternatives A, C, and D would be the same as described above for the No Build Alternative.

The intersections with maximum CO impacts are discussed in the No Build Alternative section above and presented in Table 5. Existing CO levels are estimated to be well below the NAAQS for CO. In the future, CO concentrations are expected to drop because decreases in vehicle emissions and smoother traffic flow would offset the slight increase in traffic levels.

CO Impact Analysis

Ambient CO levels would remain below the CO NAAQS and applicable local air quality standards through 2030 (design year). Therefore, no CO impacts are anticipated. Alternatives A, C, and D conform with the TIP and the requirements of the 1990 Clean Air Act.

Project Conformity Determination

As described in the Studies and Coordination section, this project is included in the PSRC’s 2003-2005 TIP, which meets regional conformity requirements of the Clean Air Act.

A project-level conformity analysis for carbon monoxide was conducted. Air pollutant emissions in the study area do not vary across the range of proposed project alternatives. The results for each alternative are documented above. Modeled CO concentrations under each alternative do not exceed the 1-hour or 8-hour NAAQS for CO in 2003, 2010 (year of opening), or 2030 (design year). Therefore, this project would not increase the frequency or severity of any existing CO violations, nor would it create a new CO violation of the NAAQS. This project conforms with the SIP and the requirements of the Clean Air Act and the Washington Clean Air Act.

Operational Mitigation Measures

No Build Alternative

No mitigation measures are proposed, but the regional vehicle inspection program and periodic review of signal optimization should be continued.

Alternative A

No mitigation measures are proposed, but the regional vehicle inspection program and periodic review of signal optimization should be continued.

Alternative C

No mitigation measures are proposed, but the regional vehicle inspection program and periodic review of signal optimization should be continued.

Alternative D

No mitigation measures are proposed, but the regional vehicle inspection program and periodic review of signal optimization should be continued.

No Build Alternative

Impacts

Impacts are not anticipated because construction would not occur under this alternative.

Mitigation Measures

Mitigation measures would not be required because construction would not occur under this alternative.

Alternative A

Impacts

Traffic volumes are expected to be moderately intense for the duration of the construction period. Construction activities would be scheduled to minimize delays during peak traffic periods, although intermittent closures of the Magnolia Bridge would be necessary. The bridge closures are not expected to result in long queues or cause CO standards to be exceeded. Construction equipment would be properly maintained to reduce exhaust emissions from diesel and gasoline engines during construction. No adverse impacts are expected to occur, and no mitigation would be required.

Dust and Particulate

PM_{10} emissions would be associated with demolition, land clearing, ground excavation, cut and fill activities, and construction of the widened or altered roadway. Construction emissions would be greatest during the earthwork phase because most emissions are associated with the movement of dirt on the site. Slash burning is not proposed.

PM_{10} emissions would vary from day to day, depending on the level of activity, specific operations, weather conditions (especially precipitation), soil moisture, silt content of soil, wind speed, and amount of equipment operating. Large dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

The quantity of particulate emissions would be proportional to the area of the construction and level of activity. Based on field measurements of suspended dust during construction projects, an approximate emission factor for construction is 1.2 tons of construction emissions per exposed acre of activity per month (EPA 1995). Emissions would be reduced if less of the construction site were disturbed or if mitigation were performed.

All slash or excess vegetation will be mulched or disposed of offsite. No slash or waste material will be burned within the study area.

Other Air Pollutants

Heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, PM_{10}, and NO_x in exhaust emissions. They would contribute a small amount of emissions compared with automobile traffic because construction traffic constitutes a small fraction of the total traffic in the area. If construction activity were to reduce the speed of other vehicles in the area, CO and exhaust emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site or along the queues on the affected routes. Some phases of construction, particularly during asphalt paving, would have short-term odors. Odors might be detectable to some people near the project site and would be diluted as distance from the site increases. Any impact in the area would be limited to a short duration.

No asphalt or cement mixing or rock crushing would occur onsite. WSDOT would ensure that any activity that emits air pollutants in the study area would have appropriate and valid permits.

Mitigation Measures

The PSCAA regulates particulate emissions in the form of fugitive dust during construction activities. Any emission of fugitive dust requires implementation of reasonable and/or appropriate precautions (PSCAA Regulation 1, Section 9.15). Incorporating Best Management Practices (BMPs) into the construction specifications for the project would limit construction impacts. Possible BMPs to control particulate matter and emissions of CO and NO_x during construction are listed below:

- Spraying exposed soil with water would reduce fugitive dust (PM_{10} emissions) and limit the deposition of particulate matter.
- Covering exposed soil during grading and seeding would reduce the deposition of particulate matter.
- Covering all trucks that transport material, spraying the material in the trucks with water, and providing adequate freeboard (space from the top of the material to the top of the truck) would reduce PM_{10} and deposition of particulate matter during transportation.
- Providing wheel washers to remove dirt that would otherwise be carried offsite by vehicles would decrease deposition of particulate matter on area roads.
- Removing mud deposited on paved, public roads would reduce particulate matter on area roadways.
- Routing and scheduling construction trucks to limit traffic delays during peak travel times would reduce secondary air quality impacts caused by reduced traffic speeds.
- Requiring appropriate emission-control devices on all construction equipment powered by gasoline or diesel fuel would reduce CO and NO_x emissions in vehicular exhaust. Using relatively new, well-maintained equipment would also reduce CO and NO_x emissions.

- Planting vegetation as soon as possible after grading would reduce windblown particulate in the area.
- Placing quarry spall aprons where trucks enter public roads would reduce mud deposits on those roads.
- Spreading gravel or paving haul roads would reduce particulate emissions.

Alternative C

Impacts

Construction impacts from Alternative C would be the same as those described for Alternative A because construction would occur in similar areas, primarily near the Magnolia Bridge and local approaches.

Mitigation Measures

Construction mitigation measures for Alternative C would be the same as those described for Alternative A.

Alternative D

Impacts

Construction impacts from Alternative D would be the same as those described for Alternative A because construction would occur in similar areas, primarily near the Magnolia Bridge and local approaches.

Mitigation Measures

Construction mitigation measures for Alternative D would be the same as those described for Alternative A.

Summary of Findings

Environmental Consequences

A qualitative analysis of particulate matter and quantitative modeling for CO indicate that, with the proposed mitigation measures, the proposed project would meet all air quality conformity requirements.

Operational Impacts

Air quality modeling shows that for each Build Alternative CO concentrations at all intersections in the study area would decrease in the future and would meet all applicable ambient air quality standards in 2010 (year of opening) and 2030 (design year).

Ozone pollution results from the buildup and chemical interaction of multiple pollutants, including NO_x and VOCs. Therefore, ozone compliance must be demonstrated by regional air quality planning agencies rather than on a project-by-project basis. The PSCAA documents the area's compliance with the ozone NAAQS and its plans to maintain that compliance in the ozone SIP.

Construction Impacts

Temporary PM_{10} emissions would be associated with demolition, land clearing, ground excavation, cut and fill activity, and construction of the roadway and intersections. NO_x and CO also would be generated from the diesel- and gasoline-powered construction equipment. Project mitigation measures would ensure that dust, particulate, and exhaust emissions would not adversely affect the public. The EPA has not yet recommend any models or procedures to accurately forecast PM_{10} concentrations along individual roadways; therefore, PM_{10} concentrations have not been modeled.

Each Build Alternative would generate more construction emissions than the No Build Alternative. Impacts from Alternatives A, C, and D would be confined to the vicinity of the Magnolia Bridge and its approaches. Dust and emission control measures and mitigation measures would ensure that there would be no lasting impact on ambient air quality or human health.

Secondary and Cumulative Impacts

If project construction coincides with construction or operation of other foreseeable projects, their combined impacts could be a higher intensity over a longer period. Construction activities would be planned to minimize public impact. Other projects planned in the study area that could be built at the same time as this project are: Seattle Monorail, the North Bay redevelopment, and the already permitted potential expansion of the Amgen facility just south of the Magnolia Bridge. Construction schedules and air quality impact minimization strategies would be refined if construction of any of these projects coincides with the Magnolia Bridge Replacement Project.

While growth and economic and social changes in and around the study area could lead to increases (or decreases) in air pollution levels, the PSCAA and Ecology are required to manage air pollutant emissions to maintain ambient air quality within national, state, and local standards.

Project Conformity Determination

This project is included in the PSRC's 2003-2005 TIP, which meets regional conformity requirements of the Clean Air Act. A project-level conformity analysis was conducted for carbon monoxide, and a qualitative analysis was conducted for particulate matter. The results show there would be no adverse impact under any of the alternatives. Therefore, this project would not increase the frequency or severity of any existing CO violation, and it would not create a new CO violation of the NAAQS. This project conforms with the SIP and the requirements of the Clean Air Act and the Washington Clean Air Act.

Mitigation Measures

Operational Mitigation

No operational mitigation measures are proposed.

Construction Mitigation

BMPs developed for this project are described in the Mitigation Measures section of this report. These BMPs would reduce emissions and minimize impacts during construction.

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Appendix A

Intersection Traffic and LOS Analysis

Intersection traffic analyses are described in detail in the Magnolia Bridge *Traffic and Transportation Discipline Report*. This appendix describes the LOS and traffic analyses for intersections in the study area in 2010 (project opening) and 2030 (design year). The first page shows the intersection analysis data for 2010 for the No Build Alternative and Alternatives A, C, and D (all labeled No Action). Similarly, the second page shows the intersection analysis data for 2030.

The intersections selected for modeling, as described in the Studies and Coordination section of this report, were chosen from these data on the basis of LOS and intersection delay. The three worst LOS values were chosen among the morning (AM Peak Hour) and evening (PM Peak Hour) rush hours using intersection delay as a tiebreaker if LOS values were identical for multiple intersections.

2010 NO ACTION - ALTERNATIVES A, C, AND D

Signalized Intersection	AM Peak Hour				PM Peak Hour			
	LOS	Delay (s)	ICU (%)	V/C_{max}	LOS	Delay (s)	ICU (%)	V/C_{max}
15th Ave W SB Ramps & W Dravus St	B	18.9	75.4	1.00	C	26.7	73.3	1.00
15th Ave W NB Ramps & W Dravus St	B	12.6	68.5	0.85	B	13.3	75.9	0.92
15th Ave W & Gilman Dr. W	B	11.9	88.2	0.88	C	22.6	89.1	0.97
15th Ave W & W Armory Way	A	4.5	83.2	0.77	A	5.4	70.0	0.72
15th Ave W & W Garfield St	A	3.0	74.8	0.71	A	8.6	68.7	0.74
Elliott Ave W & W Galer St	A	4.4	87.3	0.87	A	0.4	59.8	0.56
Elliott Ave W & Galer Flyover	B	13.6	101.6	0.96	E	68.2	107.8	1.32
3 SBT & EBR Free, merge	A	4.1	101.6	0.84	A	8.0	107.8	0.96
2 SBT & EBR Free, EBR adds lane	C	29.8	131.1	1.07	A	10.0	107.8	0.96
Alaskan Way & Galer Flyover	A	4.6	60.3	0.64	D	41.1	60.3	1.04
20th Ave W & W Dravus St	B	15.0	69.8	0.85	C	21.8	77.0	0.93
Thorndyke Ave W & 21st Ave W	C	26.0	61.9	0.62	C	29.4	77.6	0.83

Notes: Signalized intersections analyzed with Synchro traffic modeling software.
Intersection delay, at signalized intersections, is a volume-weighted average of the control delay at all approaches.

Source files: N:\36339\Traffic\Synchro\2010\AM\2010AM_NA_Mitigated_09252003

N:\36339\Traffic\Synchro\2010\PM\2010PM_NA_Mitigated_09252003

N:\36339\Traffic\Synchro\2010\AM\2010AM_NA_Mit_10062003_2sbfree

N:\36339\Traffic\Synchro\2010\AM\2010AM_NA_Mit_10062003_3sbfree

N:\36339\Traffic\Synchro\2010\PM\2010PM_NA_Mit_10062003_2sbfree

N:\36339\Traffic\Synchro\2010\PM\2010PM_NA_Mit_10062003_3sbfree

Unsignalized Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
Gilman Ave W & W Emerson Pl	E	40.8	F	193.1
Thorndyke Ave W & W Blaine St	B	11.7	B	12.5
Thorndyke Ave W & W Galer St	E	36.0	F	91.6
32nd Ave W & Clise Pl W	B	11.8	B	11.6
Magnolia Blvd & W Howe St	C	18.3	C	22.8

Notes: Unsignalized intersections analyzed with HCS 2000 and Synchro traffic modeling software.
Intersection delay, at AWSC, is a volume-weighted average of the control delay at all approaches.
Delay and level of service, at TWSC, are reported for the approach with the lowest level of service.

2030 NO ACTION - ALTERNATIVES A, C, AND D

Signalized Intersection	AM Peak Hour				PM Peak Hour			
	LOS	Delay (s)	ICU (%)	V/C_{max}	LOS	Delay (s)	ICU (%)	V/C_{max}
15th Ave W SB Ramps & W Dravus St	C	20.4	85.4	1.00	E	73.9	86.8	1.31
15th Ave W NB Ramps & W Dravus St	B	15.6	75.2	0.90	C	21.7	89.8	1.11
15th Ave W & Gilman Dr. W	B	16.7	90.6	0.93	D	40.5	101.0	1.13
15th Ave W & W Armory Way	B	13.1	90.4	0.93	A	6.2	79.2	0.84
15th Ave W & W Garfield St	A	5.1	78.0	0.82	B	10.4	70.8	0.74
Elliott Ave W & W Galer St	A	6.2	87.3	0.87	A	0.4	64.0	0.60
Elliott Ave W & Galer Flyover	C	31.3	101.8	1.14	F	92.9	109.9	1.46
3 SBT & EBR Free, merge	B	15.7	101.8	1.09	B	10.8	109.9	1.02
2 SBT & EBR Free, EBR adds lane	D	41.0	131.4	1.09	B	12.4	109.9	1.02
Alaskan Way & Galer Flyover	D	53.7	84.4	1.09	F	103.8	78.4	1.36
20th Ave W & W Dravus St	B	19.0	76.1	0.89	E	71.4	81.6	1.23
Thorndyke Ave W & 21st Ave W	C	27.1	66.7	0.74	D	40.1	81.3	0.91

Notes: Signalized intersections analyzed with Synchro traffic modeling software.
Intersection delay, at signalized intersections, is a volume-weighted average of the control delay at all approaches.

Source files: N:\36339\Traffic\Synchro\2030\AM\NA\2030AM_NA_Mitigated_09262003

N:\36339\Traffic\Synchro\2030\PM Revised FC 4sep03\NA\2030PM_NA_Mitigated_09262003

N:\36339\Traffic\Synchro\2030\AM\NA\2030AM_NA_Mit_10062003_2sbfree

N:\36339\Traffic\Synchro\2030\AM\NA\2030AM_NA_Mit_10062003_3sbfree

N:\36339\Traffic\Synchro\2030\PM Revised FC 4sep03\NA\2030PM_NA_Mit_10062003_2sbfree

N:\36339\Traffic\Synchro\2030\PM Revised FC 4sep03\NA\2030PM_NA_Mit_10062003_3sbfree

Unsignalized Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
Gilman Ave W & W Emerson Pl	E	43.7	F	207.3
Thorndyke Ave W & W Blaine St	B	12.0	C	16.6
Thorndyke Ave W & W Galer St	E	45.4	F	198.0
32nd Ave W & Clise Pl W	B	11.5	B	11.9
Magnolia Blvd & W Howe St	B	12.5	D	26.1

Notes: Unsignalized intersections analyzed with HCS 2000 and Synchro traffic modeling software.
Intersection delay, at AWSC, is a volume-weighted average of the control delay at all approaches.
Delay and level of service, at TWSC, are reported for the approach with the lowest level of service.

Appendix B

Model Input Data

CAL3QHC

CAL3QHC is a computer model recommended by EPA to predict CO concentrations from vehicles at roadway intersections (EPA 1992a). CAL3QHC is based on CALINE3, a Gaussian-type line source dispersion model that combines emissions from both moving and idling vehicles (EPA 1992b). MOBILE5b estimates air quality concentrations at selected receptor locations based on user-defined variables. Traffic projections from WSDOT and HNTB Corporation were used to input link and queue data into the CAL3QHC model. CAL3QHC uses procedures in the 1985 *Highway Capacity Manual* to calculate length of queues and contributions of emissions from idling vehicles. Unless otherwise noted, the following are the input data assumptions that were used for the CAL3QHC model; these are found in the *Guidebook for Conformity Air Quality Analysis Assistance for Nonattainment Areas* (WSDOT et al. 1995)

Variable	Value	Source
Averaging Time	60 minutes	
Surface Roughness	175 centimeters	
Settling Velocity	0 cm/sec	
Deposition Velocity	0 cm/sec	
Multiplier for feet	0.3048	
Roadway Section	Varied for roadway segment: AG (at grade), BR (bridge), DP (depression)	
Traffic Volume	roadway specific	WSDOT, HNTB Corporation (2003)
Emission Factors	Idle (2.5mph), 27 mph, 33 mph	PSRC (Kelly McGourty 2003), EPA (1992a)
Source Height	6 feet	
Lane Widths	Varied from 10 to 14-feet	HNTB Corporation (2003)
Receptor Location	Minimum 3 meters (10 feet) from lane edge	EPA 1992a
	50 to 75 meters apart along both sides of all approach roads with public access	
Receptor Height	1.8 meters (6 feet) above surface	EPA 1992a
Clearance Lost Time	4.0 seconds	HNTB Corporation (2003)
Signal Cycle Length	Varied depending on year and intersection	WSDOT, HNTB Corporation (2003)
	(60 seconds – 110 seconds)	
Average Red Time	Varied	WSDOT, HNTB Corporation (2003)
Saturation Flow	Varied	WSDOT, HNTB Corporation (2003)
Traffic Signal Type (optional)	Pretimed	
Arrival Type	Average Progression	Default
Wind Speed	1.0 meter/sec	
Wind Direction	0 to 350 in 10 increments	
Stability Class	E	
Mixing Height	1,000 meters	

Variable	Value	Source
Background CO	0.7 ppm for 8-hour; 0.8 ppm for 1-hour	PSCAA
Persistence Factor	0.7	

Eight-Hour Average CO Concentration

Worst-case, 1-hour traffic and meteorological conditions usually do not persist for an 8-hour period. Eight-hour CO concentrations are lower than peak 1-hour concentrations. The persistence factor is the ratio of the 8-hour concentration to the 1-hour concentration. Multiplying the maximum 1-hour concentration by the persistence factor will estimate the maximum 8-hour CO concentration. A persistence factor of 0.7 was used based on EPA recommendations (EPA 1992a).

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

DATE : 12/ 4/ 3
TIME : 9:42:43

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. WB DEP	10009.0	10369.0	9913.0	10373.0	96.	272.	AG	889.	18.5	.0	40.0		
2. WB DEP	9913.0	10373.0	9604.0	10378.0	309.	271.	AG	889.	18.5	.0	40.0		
3. WB Q	10043.0	10369.0	10115.0	10368.7	72.	90.	BR	976.	100.0	.0	24.0	.39	3.7
4. WB APP	10010.0	10370.0	10736.0	10370.0	726.	90.	BR	471.	18.5	.0	44.0		
5. EB DEP	10008.0	10347.0	10076.0	10349.0	68.	88.	BR	721.	18.5	.0	40.0		
6. EB DEP	10076.0	10349.0	10774.0	10345.0	698.	90.	BR	721.	18.5	.0	40.0		
7. EB RT Q	9992.0	10334.0	9940.2	10334.7	52.	271.	AG	523.	100.0	.0	12.0	.31	2.6
8. EB APP LT Q	9993.0	10347.0	9913.6	10348.5	79.	271.	AG	941.	100.0	.0	24.0	.42	4.0
9. EB APP	10007.0	10347.0	9601.0	10353.0	406.	271.	AG	697.	18.5	.0	44.0		
10. EB APP	9601.0	10353.0	9447.0	10356.0	154.	271.	AG	697.	18.5	.0	44.0		
11. SB DEP	10009.0	10357.0	10004.0	10311.0	46.	186.	DP	228.	18.5	.0	32.0		
12. SB DEP	10004.0	10311.0	10001.0	10155.0	156.	181.	DP	228.	18.5	.0	32.0		
13. SB DEP	10001.0	10155.0	10034.0	9964.0	194.	170.	DP	228.	18.5	.0	32.0		
14. SB LT Q	10005.0	10391.0	10007.4	10510.0	119.	1.	AG	401.	100.0	.0	12.0	.64	6.0
15. SB APP Q	10019.0	10393.0	10019.0	10443.6	51.	360.	AG	410.	100.0	.0	12.0	.26	2.6
16. SB APP	10018.0	10358.0	10019.0	10471.0	113.	1.	AG	670.	18.5	.0	32.0		
17. SB APP	10019.0	10471.0	10020.0	10623.0	152.	0.	AG	670.	18.5	.0	32.0		
18. SB APP	10020.0	10623.0	10023.0	10952.0	329.	1.	AG	670.	18.5	.0	32.0		

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

DATE : 12/ 4/ 3
TIME : 9:42:43

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. WB Q	100	56	4.0	471	1600	325.00	1	3
7. EB RT Q	100	60	4.0	158	1478	325.00	1	3
8. EB APP LT Q	100	54	4.0	539	1600	325.00	1	3
14. SB LT Q	100	46	4.0	473	1531	325.00	1	3
15. SB APP Q	100	47	4.0	197	1600	325.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 1	10630.0	10320.0	6.0
2. 2	10553.0	10321.0	6.0
3. 3	10481.0	10320.0	6.0
4. 4	10406.0	10320.0	6.0
5. 5	10330.0	10319.0	6.0
6. 6	10257.0	10319.0	6.0
7. 7	10182.0	10319.0	6.0
8. 8	10107.0	10320.0	6.0
9. 9	10065.0	9948.0	6.0
10. 10	10051.0	10022.0	6.0
11. 11	10040.0	10098.0	6.0
12. 12	10029.0	10172.0	6.0
13. 13	10032.0	10248.0	6.0
14. 14	10051.0	10916.0	6.0
15. 15	10049.0	10845.0	6.0
16. 16	10048.0	10774.0	6.0
17. 17	10049.0	10696.0	6.0
18. 18	10048.0	10623.0	6.0
19. 19	10046.0	10547.0	6.0
20. 20	10048.0	10471.0	6.0
21. 21	10646.0	10392.0	6.0
22. 22	10570.0	10392.0	6.0
23. 23	10496.0	10393.0	6.0
24. 24	10422.0	10394.0	6.0
25. 25	10346.0	10394.0	6.0
26. 26	10269.0	10392.0	6.0
27. 27	10195.0	10394.0	6.0
28. 28	10122.0	10395.0	6.0
29. 29	9529.0	10316.0	6.0
30. 30	9605.0	10314.0	6.0
31. 31	9677.0	10313.0	6.0
32. 32	9753.0	10312.0	6.0
33. 33	9829.0	10313.0	6.0
34. 34	9903.0	10309.0	6.0
35. 35	10030.0	9860.0	6.0
36. 36	10014.0	9936.0	6.0
37. 37	10000.0	10009.0	6.0
38. 38	9989.0	10084.0	6.0
39. 39	9978.0	10161.0	6.0
40. 40	9979.0	10237.0	6.0

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

DATE : 12/ 4/ 3
TIME : 9:42:43

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. 41	9996.0	10914.0	6.0
42. 42	9990.0	10836.0	6.0
43. 43	9991.0	10768.0	6.0
44. 44	9988.0	10691.0	6.0
45. 45	9988.0	10614.0	6.0
46. 46	9986.0	10537.0	6.0
47. 47	9983.0	10465.0	6.0
48. 48	9455.0	10404.0	6.0
49. 49	9523.0	10401.0	6.0
50. 50	9601.0	10399.0	6.0
51. 51	9676.0	10398.0	6.0
52. 52	9751.0	10397.0	6.0
53. 53	9821.0	10396.0	6.0
54. 54	9900.0	10394.0	6.0

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.6	.6	.6	.6	.6	.6	.6	2.2	.5	.7	1.1	1.4	1.6	.0	.1	.2	.3	.3	.4	.4
10.	.6	.6	.6	.6	.6	.6	.6	1.5	.4	.5	.6	1.0	1.6	.0	.0	.1	.1	.1	.1	.1
20.	.6	.6	.6	.6	.6	.6	.6	1.0	.2	.3	.4	.7	1.2	.0	.0	.0	.0	.0	.0	.0
30.	.6	.6	.6	.6	.6	.6	.6	.7	.2	.2	.3	.4	1.1	.0	.0	.0	.0	.0	.0	.0
40.	.7	.7	.7	.7	.7	.7	.6	.7	.2	.2	.2	.4	.7	.0	.0	.0	.0	.0	.0	.0
50.	.7	.7	.7	.7	.7	.7	.7	.7	.2	.2	.2	.3	.4	.0	.0	.0	.0	.0	.0	.0
60.	.8	.9	.9	.9	.9	.9	.9	.9	.1	.2	.2	.3	.5	.0	.0	.0	.0	.0	.0	.0
70.	.7	.9	1.0	1.0	1.0	1.0	1.0	1.0	.0	.0	.1	.3	.5	.0	.0	.0	.0	.0	.0	.0
80.	.5	.7	.9	.9	.9	1.0	1.0	1.0	.0	.0	.0	.1	.3	.0	.0	.0	.0	.0	.0	.0
90.	.3	.4	.5	.5	.5	.6	.6	.7	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1
100.	.1	.1	.1	.2	.1	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.4
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.4
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.3	.5
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.3	.7
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.4	1.1
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.3	.4	.7	1.3
170.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.3	.5	.4	.6	.6	.9	1.4
180.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.7	.8	.9	1.1	1.3	1.4	1.2
190.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	1.1	1.2	1.6	1.6	1.7	2.1	1.4
200.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.9	1.0	1.1	1.4	1.8	2.4	2.3
210.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.7	.7	.7	.8	1.2	2.2	3.1
220.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.4	.7	.7	.6	.7	1.5	3.1
230.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.4	.4	.5	.6	.6	1.1	2.7
240.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.2	.1	.4	.4	.4	.4	.6	.8	2.0
250.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.3	.4	.4	.3	.3	.6	1.5
260.	.2	.3	.4	.3	.4	.4	.4	.4	.0	.1	.1	.1	.1	.3	.3	.3	.3	.4	.3	1.3
270.	1.1	1.2	1.3	1.2	1.3	1.5	1.4	1.7	.0	.1	.1	.1	.1	.4	.4	.4	.4	.4	.4	1.2
280.	1.5	1.7	1.6	1.8	2.3	2.6	2.4	2.5	.0	.1	.1	.1	.4	.3	.3	.3	.3	.4	.3	1.1
290.	1.1	1.3	1.2	1.4	1.7	2.3	3.0	2.3	.0	.1	.1	.4	.6	.3	.4	.4	.3	.3	.3	1.0
300.	.9	.9	.9	1.1	1.2	1.6	2.7	2.5	.1	.1	.3	.3	1.0	.3	.4	.4	.4	.4	.4	1.0
310.	.7	.8	.8	.7	.8	1.0	2.1	2.8	.1	.4	.3	.6	1.6	.3	.4	.4	.4	.4	.4	.9
320.	.7	.7	.8	.8	.8	.9	1.1	3.4	.3	.4	.4	.9	2.0	.3	.4	.5	.4	.4	.4	.7
330.	.6	.6	.6	.6	.7	.7	.9	3.3	.5	.5	.8	1.4	1.9	.2	.5	.5	.5	.5	.5	.6
340.	.6	.6	.6	.6	.6	.7	.7	2.9	.6	.9	.9	1.3	1.8	.1	.4	.5	.5	.6	.6	.6
350.	.6	.6	.6	.6	.6	.6	.7	2.6	.6	1.1	1.2	1.7	1.8	.0	.3	.4	.5	.5	.6	.5
360.	.6	.6	.6	.6	.6	.6	.6	2.2	.5	.7	1.1	1.4	1.6	.0	.1	.2	.3	.3	.4	.4
MAX	1.5	1.7	1.6	1.8	2.3	2.6	3.0	3.4	.6	1.1	1.2	1.7	2.0	1.1	1.2	1.6	1.6	1.8	2.4	3.1
DEGR.	280	280	280	280	280	280	290	320	340	350	350	350	320	190	190	190	190	200	200	220

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.5	.6	.6	.6	.9	.4	.8	1.1	1.5	1.7	2.4
10.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.6	.6	1.6	.4	.5	.8	1.3	1.7	2.1
20.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.7	.7	2.4	.3	.4	.6	.8	1.2	1.6
30.	.0	.0	.0	.0	.0	.0	.0	.0	.4	.7	.8	.8	.9	3.2	.2	.3	.5	.6	1.0	1.3
40.	.0	.0	.0	.0	.0	.0	.0	.0	.5	.8	.8	.9	1.0	3.7	.2	.3	.3	.3	.6	1.2
50.	.0	.0	.0	.0	.0	.0	.0	.0	.8	.9	.9	1.0	1.6	4.3	.1	.2	.3	.3	.5	.9
60.	.0	.0	.0	.0	.0	.0	.0	.0	.8	1.0	1.1	1.4	2.2	4.4	.0	.1	.3	.3	.4	.5
70.	.1	.1	.1	.1	.1	.1	.1	.0	1.1	1.2	1.5	2.1	3.2	3.8	.0	.0	.1	.2	.4	.6
80.	.1	.2	.2	.2	.2	.3	.3	.3	1.6	1.9	1.8	2.5	2.9	2.4	.0	.0	.1	.1	.2	.4
90.	.2	.4	.5	.6	.6	.7	.6	.7	1.0	1.2	1.3	1.4	1.6	1.0	.0	.0	.1	.1	.1	.2
100.	.4	.7	.8	.9	.9	1.0	1.1	1.1	.2	.3	.3	.4	.3	.2	.0	.0	.1	.1	.2	.1
110.	.6	.9	.9	.9	1.0	1.0	1.0	1.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.1	.1	.1
120.	.7	.8	.8	.8	.8	.8	.8	.8	.0	.0	.0	.0	.0	.1	.0	.0	.1	.1	.1	.1
130.	.8	.8	.8	.8	.8	.8	.8	.8	.0	.0	.0	.0	.0	.1	.0	.0	.1	.2	.1	.1
140.	.7	.7	.7	.7	.7	.7	.7	.7	.0	.0	.0	.0	.0	.1	.0	.0	.1	.2	.2	.2
150.	.6	.6	.6	.6	.6	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2
160.	.6	.6	.6	.6	.6	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2
170.	.6	.6	.6	.6	.6	.6	.6	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2
180.	.6	.6	.6	.6	.6	.6	.6	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
190.	.6	.6	.6	.6	.6	.6	.6	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
200.	.6	.6	.6	.6	.6	.6	.6	2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
210.	.6	.6	.6	.6	.6	.6	.6	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
220.	.6	.6	.6	.6	.6	.7	.6	3.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
230.	.8	.8	.8	.8	.8	.8	.9	3.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
240.	.8	.8	.8	.8	.8	.8	.9	1.6	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
250.	1.0	1.0	1.1	1.1	1.2	1.8	2.7	4.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
260.	1.4	1.3	1.6	1.8	2.0	2.4	3.3	3.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
270.	1.3	1.3	1.3	1.5	1.8	2.2	2.4	2.2	.0	.1	.1	.2	.3	.4	.0	.0	.0	.0	.0	.0
280.	.5	.5	.4	.5	.9	1.0	1.2	1.4	.1	.2	.4	.5	.7	.7	.0	.0	.0	.0	.0	.2
290.	.1	.1	.1	.3	.3	.4	.5	.9	.2	.4	.5	.7	.9	.9	.0	.0	.0	.0	.1	.4
300.	.0	.1	.0	.0	.1	.2	.3	.8	.3	.4	.6	.7	.9	.9	.0	.0	.0	.0	.2	.4
310.	.0	.1	.1	.1	.1	.1	.2	.5	.4	.4	.7	.8	.8	.8	.0	.0	.2	.2	.3	.5
320.	.0	.0	.0	.1	.1	.1	.2	.4	.4	.4	.7	.8	.8	.8	.0	.2	.2	.2	.4	.7
330.	.0	.0	.0	.0	.1	.1	.1	.3	.4	.3	.7	.7	.7	.7	.2	.2	.2	.3	.3	1.2
340.	.0	.0	.0	.0	.0	.0	.1	.2	.3	.4	.6	.6	.6	.6	.3	.3	.4	.5	.8	1.8
350.	.0	.0	.0	.0	.0	.0	.0	.1	.3	.4	.6	.6	.6	.7	.6	.6	.8	.8	1.1	2.0
360.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.5	.6	.6	.6	.9	.4	.8	1.1	1.5	1.7	2.4
MAX	1.4	1.3	1.6	1.8	2.0	2.4	3.3	4.6	1.6	1.9	1.8	2.5	3.2	4.4	.6	.8	1.1	1.5	1.7	2.4
DEGR.	260	260	260	260	260	260	260	250	80	80	80	80	70	60	350	0	0	0	0	0

JOB: 15th and Dravus-2003 EXISTING RUN: Dravus and 15th- 2003 EXISTING

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0. *	.0	.1	.2	.2	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0
10. *	.1	.2	.3	.4	.5	.5	.5	.0	.0	.0	.0	.0	.0	.1
20. *	.1	.3	.5	.5	.5	.5	.9	.0	.0	.0	.0	.0	.1	.2
30. *	.2	.4	.5	.5	.5	.4	1.1	.0	.0	.0	.0	.1	.1	.3
40. *	.3	.4	.4	.4	.4	.4	1.3	.0	.0	.1	.1	.1	.2	.4
50. *	.4	.4	.4	.4	.3	.4	1.3	.0	.1	.1	.1	.2	.2	.5
60. *	.4	.4	.4	.4	.4	.4	1.2	.1	.1	.0	.2	.3	.3	.7
70. *	.3	.3	.3	.3	.3	.3	1.2	.0	.0	.3	.3	.4	.7	.7
80. *	.3	.3	.3	.3	.3	.3	1.3	.2	.4	.6	.9	1.0	1.1	1.4
90. *	.4	.3	.3	.3	.3	.3	1.4	1.1	1.2	1.9	2.1	2.1	2.1	2.2
100. *	.3	.3	.3	.3	.3	.5	1.7	1.3	1.5	2.3	2.3	2.8	3.3	2.9
110. *	.4	.3	.3	.3	.5	.6	2.0	.8	.9	1.8	1.9	2.4	3.1	2.9
120. *	.4	.4	.5	.6	.6	.7	2.6	.4	.5	1.2	1.3	1.5	2.2	3.3
130. *	.5	.6	.6	.6	.6	1.1	3.2	.4	.4	1.0	1.1	1.1	1.5	3.6
140. *	.7	.6	.6	.7	.7	1.5	3.4	.3	.3	.9	1.0	1.0	1.1	3.7
150. *	.6	.7	.6	.8	1.0	2.4	2.9	.3	.3	.8	.9	.9	.9	2.9
160. *	.8	.8	.9	1.1	1.5	2.6	2.1	.3	.3	.7	.8	.8	.8	2.2
170. *	.9	.9	1.2	1.3	1.8	2.5	1.7	.3	.3	.6	.8	.8	.8	1.5
180. *	.7	.9	1.1	1.4	1.4	1.7	1.7	.2	.3	.6	.9	.9	.9	1.1
190. *	.5	.5	.5	.7	.9	1.3	1.8	.1	.3	.4	.8	.8	.8	.8
200. *	.2	.3	.3	.3	.5	.9	1.5	.1	.3	.3	.8	.8	.8	.8
210. *	.2	.2	.2	.2	.3	.5	1.2	.0	.3	.3	.8	.8	.8	.9
220. *	.0	.1	.2	.2	.3	.3	.8	.0	.3	.3	.9	.9	.9	1.0
230. *	.0	.0	.0	.2	.2	.3	.6	.0	.3	.4	1.1	1.1	1.1	1.1
240. *	.0	.0	.0	.0	.2	.3	.5	.0	.2	.4	1.1	1.2	1.2	1.2
250. *	.0	.0	.0	.0	.0	.3	.5	.0	.1	.3	1.1	1.3	1.4	1.3
260. *	.0	.0	.0	.0	.0	.0	.4	.0	.0	.2	.8	1.2	1.3	1.5
270. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.5	.8	.9	1.1
280. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.4
290. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
300. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
310. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350. *	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
360. *	.0	.1	.2	.2	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0
MAX *	.9	.9	1.2	1.4	1.8	2.6	3.4	1.3	1.5	2.3	2.3	2.8	3.3	3.7
DEGR. *	170	180	170	180	170	160	140	100	100	100	100	100	100	140

THE HIGHEST CONCENTRATION OF 4.60 PPM OCCURRED AT RECEPTOR REC28.

JOB: Draus and 15th-2010 RUN: Dravus and 15th- 2010

DATE : 12/ 4/ 3
TIME : 9:44:11

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. WB DEP	10009.0	10369.0	9913.0	10373.0	96.	272.	AG	1130.	9.9	.0	40.0		
2. WB DEP	9913.0	10373.0	9604.0	10378.0	309.	271.	AG	1130.	9.9	.0	40.0		
3. WB Q	10043.0	10369.0	10127.8	10368.6	85.	90.	BR	549.	100.0	.0	24.0	.52	4.3
4. WB APP	10010.0	10370.0	10736.0	10370.0	726.	90.	BR	470.	9.9	.0	44.0		
5. EB DEP	10008.0	10347.0	10076.0	10349.0	68.	88.	BR	1060.	9.9	.0	40.0		
6. EB DEP	10076.0	10349.0	10774.0	10345.0	698.	90.	BR	1060.	9.9	.0	40.0		
7. EB RT Q	9992.0	10334.0	9933.4	10334.8	59.	271.	AG	279.	100.0	.0	12.0	.40	3.0
8. EB APP LT Q	9993.0	10347.0	9854.2	10349.6	139.	271.	AG	516.	100.0	.0	24.0	.77	7.1
9. EB APP	10007.0	10347.0	9601.0	10353.0	406.	271.	AG	950.	9.9	.0	44.0		
10. EB APP	9601.0	10353.0	9447.0	10356.0	154.	271.	AG	950.	9.9	.0	44.0		
11. SB DEP	10009.0	10357.0	10004.0	10311.0	46.	186.	DP	230.	9.9	.0	32.0		
12. SB DEP	10004.0	10311.0	10001.0	10155.0	156.	181.	DP	230.	9.9	.0	32.0		
13. SB DEP	10001.0	10155.0	10034.0	9964.0	194.	170.	DP	230.	9.9	.0	32.0		
14. SB RT Q	10005.0	10391.0	10009.2	10603.3	212.	1.	AG	158.	100.0	.0	12.0	.94	10.8
15. SB APP Q	10019.0	10393.0	10019.0	10451.2	58.	360.	AG	158.	100.0	.0	12.0	.31	3.0
16. SB APP	10018.0	10358.0	10019.0	10471.0	113.	1.	AG	1000.	9.9	.0	32.0		
17. SB APP	10019.0	10471.0	10020.0	10623.0	152.	0.	AG	1000.	9.9	.0	32.0		
18. SB APP	10020.0	10623.0	10023.0	10952.0	329.	1.	AG	1000.	9.9	.0	32.0		

JOB: Draus and 15th-2010 RUN: Dravus and 15th- 2010

DATE : 12/ 4/ 3
TIME : 9:44:11

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. WB Q	100	66	4.0	470	1600	155.00	1	3
7. EB RT Q	100	67	4.0	160	1478	155.00	1	3
8. EB APP LT Q	100	62	4.0	790	1600	155.00	1	3
14. SB RT Q	100	38	4.0	720	1372	155.00	1	3
15. SB APP Q	100	38	4.0	280	1600	155.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 1	10630.0	10320.0	6.0
2. 2	10553.0	10321.0	6.0
3. 3	10481.0	10320.0	6.0
4. 4	10406.0	10320.0	6.0
5. 5	10330.0	10319.0	6.0
6. 6	10257.0	10319.0	6.0
7. 7	10182.0	10319.0	6.0
8. 8	10107.0	10320.0	6.0
9. 9	10065.0	9948.0	6.0
10. 10	10051.0	10022.0	6.0
11. 11	10040.0	10098.0	6.0
12. 12	10029.0	10172.0	6.0
13. 13	10032.0	10248.0	6.0
14. 14	10051.0	10916.0	6.0
15. 15	10049.0	10845.0	6.0
16. 16	10048.0	10774.0	6.0
17. 17	10049.0	10696.0	6.0
18. 18	10048.0	10623.0	6.0
19. 19	10046.0	10547.0	6.0
20. 20	10048.0	10471.0	6.0
21. 21	10646.0	10392.0	6.0
22. 22	10570.0	10392.0	6.0
23. 23	10496.0	10393.0	6.0
24. 24	10422.0	10394.0	6.0
25. 25	10346.0	10394.0	6.0
26. 26	10269.0	10392.0	6.0
27. 27	10195.0	10394.0	6.0
28. 28	10122.0	10395.0	6.0
29. 29	9529.0	10316.0	6.0
30. 30	9605.0	10314.0	6.0
31. 31	9677.0	10313.0	6.0
32. 32	9753.0	10312.0	6.0
33. 33	9829.0	10313.0	6.0
34. 34	9903.0	10309.0	6.0
35. 35	10030.0	9860.0	6.0
36. 36	10014.0	9936.0	6.0
37. 37	10000.0	10009.0	6.0
38. 38	9989.0	10084.0	6.0
39. 39	9978.0	10161.0	6.0
40. 40	9979.0	10237.0	6.0

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. 41	9996.0	10914.0	6.0
42. 42	9990.0	10836.0	6.0
43. 43	9991.0	10768.0	6.0
44. 44	9988.0	10691.0	6.0
45. 45	9988.0	10614.0	6.0
46. 46	9986.0	10537.0	6.0
47. 47	9983.0	10465.0	6.0
48. 48	9455.0	10404.0	6.0
49. 49	9523.0	10401.0	6.0
50. 50	9601.0	10399.0	6.0
51. 51	9676.0	10398.0	6.0
52. 52	9751.0	10397.0	6.0
53. 53	9821.0	10396.0	6.0
54. 54	9900.0	10394.0	6.0

JOB: Draus and 15th-2010 RUN: Dravus and 15th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.4	.4	.4	.4	.4	.4	.4	1.5	.2	.4	.7	.9	1.0	.0	.1	.2	.2	.3	.3	.3
10.	.4	.4	.4	.4	.4	.4	.4	1.3	.2	.3	.3	.5	.8	.0	.0	.1	.1	.1	.1	.1
20.	.4	.4	.4	.4	.4	.4	.4	1.1	.1	.2	.3	.4	.9	.0	.0	.0	.0	.0	.0	.0
30.	.4	.4	.4	.4	.4	.4	.4	.8	.1	.1	.1	.4	.8	.0	.0	.0	.0	.0	.0	.0
40.	.5	.5	.5	.5	.5	.5	.5	.6	.1	.1	.1	.3	.6	.0	.0	.0	.0	.0	.0	.0
50.	.5	.5	.5	.5	.5	.5	.5	.5	.1	.1	.1	.2	.4	.0	.0	.0	.0	.0	.0	.0
60.	.5	.6	.6	.6	.5	.5	.5	.5	.0	.1	.1	.2	.3	.0	.0	.0	.0	.0	.0	.0
70.	.6	.6	.6	.6	.7	.7	.7	.7	.0	.0	.1	.1	.3	.0	.0	.0	.0	.0	.0	.0
80.	.4	.6	.6	.6	.6	.6	.7	.8	.0	.0	.0	.1	.3	.0	.0	.0	.0	.0	.0	.0
90.	.2	.3	.3	.4	.4	.5	.5	.5	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
100.	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.3
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.2	.4
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.6
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.4	.8
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.3	.4	.9
170.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.4	.6	.9
180.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.6	.6	.5	.6	.6	.8	.7
190.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.7	.7	.8	1.0	1.3	1.2	.8
200.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.5	.7	.9	1.0	1.5	1.5	1.3
210.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.5	.6	.7	.9	1.3	1.5	1.7
220.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.4	.4	.6	.5	1.0	1.3	1.9
230.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.3	.3	.3	.4	.8	1.0	1.8
240.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.3	.3	.3	.3	.6	.8	1.4
250.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.3	.3	.3	.3	.3	.7	1.0
260.	.1	.2	.2	.2	.2	.2	.2	.4	.0	.1	.1	.1	.1	.3	.3	.3	.3	.3	.6	.8
270.	.8	.8	.9	1.0	.9	1.1	1.1	1.2	.0	.1	.1	.1	.1	.3	.3	.3	.3	.2	.6	.5
280.	1.0	1.0	1.1	1.2	1.2	1.7	1.7	1.8	.0	.1	.1	.1	.3	.3	.3	.3	.3	.3	.6	.6
290.	.8	.8	1.0	1.0	1.0	1.4	2.1	1.7	.0	.1	.1	.2	.6	.3	.3	.3	.3	.3	.6	.6
300.	.6	.6	.6	.7	.7	1.0	1.7	1.4	.0	.1	.2	.3	1.1	.3	.3	.3	.3	.3	.6	.6
310.	.5	.5	.5	.5	.6	.8	1.5	1.6	.1	.3	.3	.5	1.4	.3	.3	.3	.3	.3	.6	.6
320.	.5	.5	.5	.6	.6	.7	1.0	1.8	.3	.4	.5	.7	1.4	.2	.4	.4	.4	.4	.5	.6
330.	.4	.4	.4	.4	.5	.5	.8	2.1	.4	.5	.5	1.0	1.0	.2	.4	.4	.4	.4	.6	.7
340.	.4	.4	.4	.4	.4	.5	.5	1.8	.4	.6	.7	.8	.8	.1	.3	.4	.4	.4	.6	.8
350.	.4	.4	.4	.4	.4	.4	.5	1.7	.3	.5	.6	.8	1.1	.0	.2	.3	.4	.4	.5	.6
360.	.4	.4	.4	.4	.4	.4	.4	1.5	.2	.4	.7	.9	1.0	.0	.1	.2	.2	.3	.3	.3
MAX	1.0	1.0	1.1	1.2	1.2	1.7	2.1	2.1	.4	.6	.7	1.0	1.4	.7	.7	.9	1.0	1.5	1.5	1.9
DEGR.	280	280	280	280	280	280	290	330	330	340	0	330	310	190	190	200	190	200	200	220

JOB: Draus and 15th-2010 RUN: Dravus and 15th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.5	1.6	.3	.4	.6	.9	.9	1.4
10.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.5	1.6	.1	.2	.3	.6	.9	1.3
20.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.7	1.9	.1	.3	.3	.4	.5	.8
30.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.5	.5	.6	1.2	2.2	.1	.1	.2	.3	.5	.7
40.	.0	.0	.0	.0	.0	.0	.0	.0	.4	.6	.6	.6	1.5	2.4	.1	.1	.2	.2	.5	.9
50.	.0	.0	.0	.0	.0	.0	.0	.0	.5	.6	.7	.9	2.1	2.6	.1	.1	.2	.2	.3	.6
60.	.0	.0	.0	.0	.0	.0	.0	.0	.5	.7	.8	.9	2.3	2.7	.0	.1	.2	.2	.3	.5
70.	.0	.0	.0	.0	.0	.0	.0	.0	.8	.9	1.1	1.8	2.5	2.4	.0	.0	.1	.2	.2	.4
80.	.1	.1	.1	.1	.1	.1	.1	.1	1.0	1.2	1.5	1.8	2.1	1.4	.0	.0	.1	.1	.2	.4
90.	.1	.3	.3	.3	.4	.5	.4	.4	.7	1.0	1.0	.9	1.1	.7	.0	.0	.1	.1	.1	.2
100.	.3	.4	.5	.6	.6	.7	.7	.7	.2	.2	.1	.2	.3	.1	.0	.0	.1	.1	.0	.1
110.	.4	.5	.6	.6	.7	.7	.7	.7	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1
120.	.5	.5	.5	.5	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
130.	.5	.5	.5	.5	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
140.	.5	.5	.5	.5	.5	.5	.5	.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
150.	.5	.5	.5	.5	.5	.5	.5	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
160.	.4	.4	.4	.3	.4	.4	.4	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
170.	.3	.3	.3	.3	.3	.3	.3	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2
180.	.4	.4	.4	.4	.4	.5	.4	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
190.	.3	.3	.3	.3	.3	.3	.3	1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
200.	.4	.4	.4	.4	.4	.4	.4	1.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
210.	.5	.5	.5	.5	.5	.5	.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
220.	.5	.5	.5	.5	.5	.5	.5	2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
230.	.5	.5	.5	.5	.5	.5	.6	2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
240.	.5	.5	.5	.5	.5	.6	1.2	2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
250.	.7	.7	.7	.8	.8	1.1	1.9	2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
260.	.9	.8	.9	1.1	1.3	1.8	2.3	2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
270.	.7	.8	.8	.9	1.0	1.4	1.7	1.5	.0	.1	.1	.2	.2	.1	.0	.0	.0	.0	.0	.0
280.	.2	.2	.3	.3	.4	.5	.8	.5	.1	.2	.3	.3	.5	.6	.0	.0	.0	.0	.0	.1
290.	.0	.0	.0	.1	.2	.1	.3	.4	.2	.3	.3	.5	.6	.8	.0	.0	.0	.0	.0	.2
300.	.0	.0	.0	.0	.1	.2	.2	.4	.2	.3	.4	.5	.7	1.0	.0	.0	.0	.0	.2	.5
310.	.0	.0	.1	.1	.0	.2	.2	.4	.3	.3	.5	.5	.6	1.3	.0	.0	.0	.2	.2	.7
320.	.0	.0	.0	.1	.1	.1	.2	.3	.3	.3	.5	.5	.6	1.5	.0	.0	.2	.2	.3	.9
330.	.0	.0	.0	.0	.0	.1	.1	.3	.3	.2	.5	.5	.5	1.7	.2	.3	.3	.4	.5	1.1
340.	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.4	.4	.4	1.6	.3	.4	.4	.5	.7	1.1
350.	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.4	.4	.4	1.5	.2	.4	.4	.6	.7	1.2
360.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.5	1.6	.3	.4	.6	.9	.9	1.4
MAX	.9	.8	.9	1.1	1.3	1.8	2.3	2.8	1.0	1.2	1.5	1.8	2.5	2.7	.3	.4	.6	.9	.9	1.4
DEGR.	260	260	260	260	260	260	260	250	80	80	80	70	70	60	0	0	0	0	0	0

JOB: Draus and 15th-2010 RUN: Dravus and 15th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0.	.0	.1	.1	.2	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0
10.	.0	.2	.3	.3	.4	.6	.7	.0	.0	.0	.0	.0	.0	.1
20.	.1	.3	.4	.4	.4	.7	.9	.0	.0	.0	.0	.0	.1	.2
30.	.2	.3	.4	.4	.4	.8	.8	.0	.0	.0	.0	.1	.1	.3
40.	.2	.3	.3	.3	.3	.7	.8	.0	.0	.0	.1	.1	.3	.3
50.	.3	.3	.3	.3	.3	.7	.7	.0	.0	.1	.1	.1	.2	.3
60.	.3	.3	.3	.3	.3	.7	.6	.0	.0	.0	.1	.2	.2	.5
70.	.3	.3	.3	.3	.3	.7	.7	.0	.0	.2	.2	.3	.2	.4
80.	.3	.3	.3	.3	.3	.7	.6	.2	.2	.4	.5	.5	.5	.7
90.	.3	.3	.3	.3	.2	.7	.8	.7	.8	1.1	1.3	1.5	1.6	1.2
100.	.3	.3	.3	.3	.4	.8	.9	.9	1.0	1.6	1.9	2.1	2.2	1.7
110.	.3	.3	.3	.3	.5	.9	1.1	.6	.7	1.2	1.5	2.0	2.3	1.9
120.	.3	.3	.4	.4	.7	.9	1.6	.4	.5	.8	1.0	1.3	2.3	2.0
130.	.3	.4	.4	.4	.7	1.0	1.8	.3	.3	.7	.8	.9	2.0	2.2
140.	.5	.4	.4	.4	.9	1.4	1.9	.3	.2	.7	.7	.7	1.4	2.3
150.	.5	.5	.5	.6	1.1	1.5	1.4	.2	.2	.5	.6	.6	1.0	1.9
160.	.7	.6	.7	.9	1.4	1.3	1.0	.2	.2	.5	.5	.5	.6	1.8
170.	.7	.6	.6	1.0	1.2	1.2	.9	.2	.2	.5	.6	.5	.5	1.6
180.	.7	.6	.6	.9	1.1	1.0	1.0	.2	.2	.3	.6	.6	.6	1.7
190.	.2	.4	.4	.5	.7	.8	1.1	.1	.2	.3	.6	.6	.6	1.7
200.	.2	.3	.3	.4	.5	.7	1.0	.1	.2	.2	.5	.5	.5	1.7
210.	.0	.2	.2	.3	.4	.5	1.0	.0	.2	.2	.6	.6	.6	1.6
220.	.0	.0	.1	.2	.2	.4	.8	.0	.2	.3	.6	.7	.7	1.5
230.	.0	.0	.0	.1	.2	.2	.7	.0	.2	.3	.8	.8	.8	1.3
240.	.0	.0	.0	.0	.1	.2	.5	.0	.2	.3	.8	.8	.8	1.0
250.	.0	.0	.0	.0	.0	.1	.3	.0	.1	.2	.7	.9	.9	1.0
260.	.0	.0	.0	.0	.0	.0	.2	.0	.0	.1	.6	.8	.9	1.1
270.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.5	.7	.8
280.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3
290.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
300.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
310.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
360.	.0	.1	.1	.2	.2	.2	.3	.0	.0	.0	.0	.0	.0	.0
MAX	.7	.6	.7	1.0	1.4	1.5	1.9	.9	1.0	1.6	1.9	2.1	2.3	2.3
DEGR.	170	160	160	170	160	150	140	100	100	100	100	100	110	140

THE HIGHEST CONCENTRATION OF 2.80 PPM OCCURRED AT RECEPTOR REC28.

JOB: Draus and 15th-2030 RUN: Dravus and 15th- 2030

DATE : 12/ 4/ 3
TIME : 9:45:29

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. WB DEP	10009.0	10369.0	9913.0	10373.0	96.	272.	AG	1330.	6.2	.0	40.0		
2. WB DEP	9913.0	10373.0	9604.0	10378.0	309.	271.	AG	1330.	6.2	.0	40.0		
3. WB Q	10043.0	10369.0	10311.7	10367.8	269.	90.	BR	324.	100.0	.0	24.0	1.04	13.7
4. WB APP	10010.0	10370.0	10736.0	10370.0	726.	90.	BR	470.	6.2	.0	44.0		
5. EB DEP	10008.0	10347.0	10076.0	10349.0	68.	88.	BR	1270.	6.2	.0	40.0		
6. EB DEP	10076.0	10349.0	10774.0	10345.0	698.	90.	BR	1270.	6.2	.0	40.0		
7. EB RT Q	9992.0	10334.0	9923.8	10334.9	68.	271.	AG	173.	100.0	.0	12.0	.46	3.5
8. EB APP LT Q	9993.0	10347.0	9343.7	10359.0	649.	271.	AG	324.	100.0	.0	24.0	1.08	33.0
9. EB APP	10007.0	10347.0	9601.0	10353.0	406.	271.	AG	1130.	6.2	.0	44.0		
10. EB APP	9601.0	10353.0	9447.0	10356.0	154.	271.	AG	1130.	6.2	.0	44.0		
11. SB DEP	10009.0	10357.0	10004.0	10311.0	46.	186.	DP	220.	6.2	.0	32.0		
12. SB DEP	10004.0	10311.0	10001.0	10155.0	156.	181.	DP	220.	6.2	.0	32.0		
13. SB DEP	10001.0	10155.0	10034.0	9964.0	194.	170.	DP	220.	6.2	.0	32.0		
14. SB RT Q	10005.0	10391.0	10030.2	11648.5	1258.	1.	AG	82.	100.0	.0	12.0	1.11	63.9
15. SB APP Q	10019.0	10393.0	10019.0	10453.7	61.	360.	AG	82.	100.0	.0	12.0	.32	3.1
16. SB APP	10018.0	10358.0	10019.0	10471.0	113.	1.	AG	1220.	6.2	.0	32.0		
17. SB APP	10019.0	10471.0	10020.0	10623.0	152.	0.	AG	1220.	6.2	.0	32.0		
18. SB APP	10020.0	10623.0	10023.0	10952.0	329.	1.	AG	1220.	6.2	.0	32.0		

JOB: Draus and 15th-2030 RUN: Dravus and 15th- 2030

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. WB Q	110	73	4.0	470	800	91.00	1	3
7. EB RT Q	110	78	4.0	160	1478	91.00	1	3
8. EB APP LT Q	110	73	4.0	970	1600	91.00	1	3
14. SB RT Q	110	37	4.0	920	1358	91.00	1	3
15. SB APP Q	110	37	4.0	300	1534	91.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 1	10630.0	10320.0	6.0
2. 2	10553.0	10321.0	6.0
3. 3	10481.0	10320.0	6.0
4. 4	10406.0	10320.0	6.0
5. 5	10330.0	10319.0	6.0
6. 6	10257.0	10319.0	6.0
7. 7	10182.0	10319.0	6.0
8. 8	10107.0	10320.0	6.0
9. 9	10065.0	9948.0	6.0
10. 10	10051.0	10022.0	6.0
11. 11	10040.0	10098.0	6.0
12. 12	10029.0	10172.0	6.0
13. 13	10032.0	10248.0	6.0
14. 14	10051.0	10916.0	6.0
15. 15	10049.0	10845.0	6.0
16. 16	10048.0	10774.0	6.0
17. 17	10049.0	10696.0	6.0
18. 18	10048.0	10623.0	6.0
19. 19	10046.0	10547.0	6.0
20. 20	10048.0	10471.0	6.0
21. 21	10646.0	10392.0	6.0
22. 22	10570.0	10392.0	6.0
23. 23	10496.0	10393.0	6.0
24. 24	10422.0	10394.0	6.0
25. 25	10346.0	10394.0	6.0
26. 26	10269.0	10392.0	6.0
27. 27	10195.0	10394.0	6.0
28. 28	10122.0	10395.0	6.0
29. 29	9529.0	10316.0	6.0
30. 30	9605.0	10314.0	6.0
31. 31	9677.0	10313.0	6.0
32. 32	9753.0	10312.0	6.0
33. 33	9829.0	10313.0	6.0
34. 34	9903.0	10309.0	6.0
35. 35	10030.0	9860.0	6.0
36. 36	10014.0	9936.0	6.0
37. 37	10000.0	10009.0	6.0
38. 38	9989.0	10084.0	6.0
39. 39	9978.0	10161.0	6.0
40. 40	9979.0	10237.0	6.0

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
41. 41	9996.0	10914.0	6.0
42. 42	9990.0	10836.0	6.0
43. 43	9991.0	10768.0	6.0
44. 44	9988.0	10691.0	6.0
45. 45	9988.0	10614.0	6.0
46. 46	9986.0	10537.0	6.0
47. 47	9983.0	10465.0	6.0
48. 48	9455.0	10404.0	6.0
49. 49	9523.0	10401.0	6.0
50. 50	9601.0	10399.0	6.0
51. 51	9676.0	10398.0	6.0
52. 52	9751.0	10397.0	6.0
53. 53	9821.0	10396.0	6.0
54. 54	9900.0	10394.0	6.0

JOB: Draus and 15th-2030 RUN: Dravus and 15th- 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (PPM)																			
0.	.3	.3	.3	.3	.3	.9	.9	1.0	.2	.2	.2	.6	.7	.2	.3	.3	.4	.4	.4	.4
10.	.3	.3	.3	.3	.3	.9	.9	1.0	.2	.2	.2	.4	.6	.1	.1	.1	.1	.2	.2	.1
20.	.3	.3	.3	.3	.3	.9	.9	.9	.3	.3	.3	.4	.4	.0	.0	.0	.0	.0	.0	.0
30.	.4	.4	.4	.3	.3	.9	1.0	1.0	.2	.3	.3	.4	.5	.0	.0	.0	.0	.0	.0	.0
40.	.4	.4	.4	.4	.4	.9	1.1	1.1	.1	.2	.3	.4	.5	.0	.0	.0	.0	.0	.0	.0
50.	.4	.4	.4	.4	.4	.8	1.1	1.2	.1	.1	.2	.3	.5	.0	.0	.0	.0	.0	.0	.0
60.	.4	.5	.4	.4	.4	.6	1.1	1.2	.0	.1	.1	.2	.7	.0	.0	.0	.0	.0	.0	.0
70.	.4	.5	.5	.5	.5	.5	1.0	1.2	.0	.0	.1	.1	.5	.0	.0	.0	.0	.0	.0	.0
80.	.3	.4	.5	.5	.5	.5	.7	.9	.0	.0	.0	.1	.2	.0	.0	.0	.0	.0	.0	.0
90.	.2	.2	.2	.3	.3	.3	.3	.5	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
100.	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.5
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.7
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.4	.7
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.4	.7
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.3	.4	.4	.5
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.3	.4	.4	.5
170.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.3	.5
180.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.3	.4	.4	.5
190.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.6	.7	.6	.6	.5	.6	.4
200.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.6	.7	.8	.8	.8	1.1	.7
210.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.8	.8	1.2	1.2
220.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.8	1.0	1.0	1.3
230.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.6	.7	.7	.9	1.0	1.2
240.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.5	.5	.6	.8	1.0	1.2
250.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.5	.6	.8	1.0
260.	.3	.3	.3	.3	.2	.2	.2	.5	.0	.0	.0	.0	.0	.4	.4	.4	.3	.4	.4	.9
270.	.8	.9	1.0	.9	1.0	1.0	1.1	1.3	.0	.0	.0	.0	.1	.4	.4	.4	.3	.3	.3	.4
280.	.9	1.1	1.2	1.6	1.5	1.4	1.5	1.5	.0	.0	.0	.1	.5	.4	.4	.4	.3	.4	.3	.4
290.	.6	.7	.8	1.3	1.5	1.3	1.5	1.3	.0	.1	.2	.3	.8	.3	.4	.4	.3	.3	.3	.3
300.	.5	.5	.6	.8	1.2	1.3	1.3	1.0	.1	.2	.3	.6	.9	.4	.4	.4	.4	.4	.4	.4
310.	.4	.4	.4	.5	1.3	1.3	1.3	1.0	.2	.2	.5	.6	.8	.4	.4	.5	.4	.4	.5	.4
320.	.4	.4	.4	.4	1.2	1.2	1.3	1.3	.2	.5	.5	.5	.9	.4	.5	.5	.5	.5	.5	.5
330.	.4	.4	.4	.5	.9	1.2	1.2	1.2	.3	.5	.4	.6	.6	.3	.5	.5	.5	.5	.6	.5
340.	.3	.3	.3	.3	.7	1.1	1.1	1.2	.2	.2	.4	.6	.7	.3	.5	.5	.5	.5	.6	.6
350.	.3	.3	.3	.3	.4	1.0	1.0	1.1	.2	.2	.2	.5	.7	.3	.5	.6	.6	.6	.6	.6
360.	.3	.3	.3	.3	.3	.9	.9	1.0	.2	.2	.2	.6	.7	.2	.3	.3	.4	.4	.4	.4
MAX	.9	1.1	1.2	1.6	1.5	1.4	1.5	1.5	.3	.5	.5	.6	.9	.7	.7	.8	.8	1.0	1.2	1.3
DEGR.	280	280	280	280	280	280	290	280	20	320	310	0	300	210	190	200	200	220	210	220

JOB: Draus and 15th-2030 RUN: Dravus and 15th- 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	*	.0	.0	.0	.0	.0	.0	.0	.1	.9	1.0	1.1	1.1	1.1	1.1	.3	.4	.2	.3	.6	1.0
10.	*	.0	.0	.0	.0	.0	.0	.0	.0	.9	1.0	1.1	1.1	1.2	1.3	.1	.2	.3	.2	.5	1.0
20.	*	.0	.0	.0	.0	.0	.0	.0	.0	.9	1.1	1.2	1.2	1.4	1.3	.1	.2	.3	.2	.4	.5
30.	*	.0	.0	.0	.0	.0	.0	.0	.0	.9	1.2	1.2	1.3	1.3	1.4	.1	.2	.4	.3	.4	.4
40.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.3	1.3	1.3	1.4	1.5	.0	.2	.2	.3	.5	.7
50.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.3	1.4	1.4	1.4	1.8	.0	.1	.1	.2	.4	.5
60.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.5	1.5	1.5	1.6	1.7	.0	.0	.1	.1	.3	.5
70.	*	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.6	1.6	1.6	1.7	1.9	.0	.0	.0	.1	.1	.5
80.	*	.0	.1	.1	.1	.1	.1	.2	.2	1.5	1.7	1.6	1.6	1.7	1.4	.0	.0	.0	.0	.1	.2
90.	*	.1	.2	.2	.2	.2	.3	.5	.8	1.1	1.0	.9	.8	.7	.5	.0	.0	.0	.0	.0	.0
100.	*	.2	.3	.4	.4	.4	.7	1.2	1.5	.2	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
110.	*	.2	.4	.4	.5	.5	.9	1.6	1.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
120.	*	.3	.3	.3	.3	.3	1.1	1.5	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
130.	*	.3	.3	.3	.3	.3	1.2	1.4	1.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
140.	*	.3	.3	.3	.3	.3	1.3	1.3	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
150.	*	.3	.3	.3	.3	.3	1.3	1.3	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1
160.	*	.3	.3	.3	.3	.3	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
170.	*	.3	.3	.3	.3	.3	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
180.	*	.3	.3	.3	.3	.3	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
190.	*	.3	.3	.3	.3	.3	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
200.	*	.3	.3	.3	.3	.3	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
210.	*	.3	.3	.3	.3	.4	1.3	1.3	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
220.	*	.3	.3	.3	.3	.5	1.3	1.3	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
230.	*	.3	.3	.3	.3	.8	1.4	1.4	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
240.	*	.3	.4	.3	.4	1.1	1.6	1.6	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
250.	*	.6	.6	.7	1.0	1.6	1.9	2.1	1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
260.	*	.9	1.0	1.0	1.5	2.0	2.1	2.2	2.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
270.	*	.8	.8	1.0	1.2	1.5	1.5	1.4	1.3	.2	.3	.5	.6	.7	.7	.0	.0	.0	.0	.0	.1
280.	*	.3	.3	.4	.4	.4	.4	.4	.6	.6	.8	.9	1.1	1.5	1.3	.0	.0	.0	.0	.1	.3
290.	*	.0	.0	.0	.0	.0	.1	.2	.3	.9	1.2	1.3	1.5	1.7	1.6	.0	.0	.1	.1	.3	.7
300.	*	.0	.0	.0	.0	.0	.2	.2	.2	1.1	1.2	1.3	1.4	1.5	1.5	.1	.1	.2	.3	.6	.7
310.	*	.0	.0	.0	.0	.1	.1	.2	.2	1.1	1.1	1.2	1.3	1.3	1.3	.1	.2	.2	.4	.6	.7
320.	*	.0	.0	.0	.0	.2	.2	.2	.2	1.0	1.0	1.1	1.2	1.2	1.2	.2	.2	.3	.5	.5	.7
330.	*	.0	.0	.0	.1	.1	.2	.2	.2	.9	.9	1.1	1.1	1.2	1.1	.2	.2	.4	.5	.5	.7
340.	*	.0	.0	.0	.0	.1	.1	.2	.3	.9	.8	1.1	1.1	1.2	1.1	.2	.2	.3	.3	.6	.8
350.	*	.0	.0	.0	.0	.0	.0	.1	.2	.9	.9	1.1	1.1	1.2	1.1	.1	.2	.3	.5	.7	.9
360.	*	.0	.0	.0	.0	.0	.0	.0	.1	.9	1.0	1.1	1.1	1.1	1.1	.3	.4	.2	.3	.6	1.0
MAX	*	.9	1.0	1.0	1.5	2.0	2.1	2.2	2.0	1.6	1.7	1.6	1.6	1.7	1.9	.3	.4	.4	.5	.7	1.0
DEGR.	*	260	260	260	260	260	260	260	260	70	80	80	80	80	70	0	0	30	320	350	0

JOB: Draus and 15th-2030 RUN: Dravus and 15th- 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0.	.3	.2	.4	.3	.5	.4	.5	.0	.0	.0	.0	.0	.0	.1
10.	.4	.4	.6	.6	.7	.7	.6	.0	.0	.0	.0	.0	.1	.2
20.	.5	.5	.6	.6	.6	.6	.6	.0	.0	.0	.1	.1	.2	.2
30.	.4	.6	.6	.6	.6	.6	.5	.0	.0	.1	.1	.2	.2	.3
40.	.5	.4	.5	.5	.4	.4	.4	.0	.0	.1	.1	.2	.1	.2
50.	.4	.4	.4	.4	.4	.4	.4	.0	.0	.0	.1	.1	.2	.2
60.	.4	.4	.4	.4	.4	.4	.4	.0	.0	.0	.0	.1	.2	.2
70.	.4	.4	.4	.4	.4	.4	.3	.0	.0	.0	.1	.1	.1	.3
80.	.4	.4	.4	.4	.4	.4	.4	.2	.3	.4	.2	.2	.4	.6
90.	.4	.4	.4	.4	.4	.4	.3	.8	.9	1.2	1.0	1.2	1.0	1.0
100.	.4	.4	.4	.4	.4	.4	.8	1.5	1.6	1.7	1.8	1.6	1.4	1.5
110.	.4	.4	.4	.4	.5	.6	1.2	1.3	1.5	1.8	1.7	1.6	1.7	1.3
120.	.4	.4	.4	.5	.6	.8	1.2	1.1	1.2	1.5	1.5	1.5	1.5	1.5
130.	.5	.4	.5	.6	.7	.8	1.3	1.0	1.1	1.3	1.4	1.4	1.4	1.5
140.	.6	.7	.7	.7	.8	.8	1.2	.9	1.0	1.3	1.3	1.2	1.2	1.4
150.	.7	.7	.9	.9	1.0	1.0	.8	.9	.9	1.1	1.2	1.2	1.2	1.4
160.	.7	.8	.9	.8	.8	.8	.7	.9	.9	1.1	1.2	1.2	1.2	1.3
170.	.8	.7	.7	.8	.7	.6	.5	.8	.9	.9	1.2	1.2	1.2	1.2
180.	.6	.5	.5	.4	.5	.7	.6	.8	.9	1.0	1.2	1.2	1.2	1.2
190.	.3	.2	.3	.3	.6	.6	.7	.8	.9	.8	1.2	1.2	1.2	1.2
200.	.2	.2	.2	.3	.3	.5	.7	.7	.9	.9	1.2	1.2	1.2	1.2
210.	.2	.2	.3	.4	.5	.5	.7	.7	.9	.9	1.2	1.2	1.2	1.2
220.	.1	.2	.2	.3	.5	.5	.7	.7	.9	.9	1.2	1.2	1.2	1.2
230.	.1	.1	.2	.2	.5	.5	.7	.7	1.0	1.0	1.4	1.3	1.3	1.3
240.	.0	.0	.1	.2	.3	.6	.8	.6	.9	1.1	1.4	1.5	1.5	1.5
250.	.0	.0	.0	.1	.2	.4	.7	.4	.8	1.1	1.4	1.7	1.7	1.7
260.	.0	.0	.0	.0	.0	.1	.5	.2	.4	.8	1.2	1.5	1.6	1.7
270.	.0	.0	.0	.0	.0	.0	.1	.0	.2	.3	.7	.9	.9	1.1
280.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3
290.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
300.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
310.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
360.	.3	.2	.4	.3	.5	.4	.5	.0	.0	.0	.0	.0	.0	.1
MAX	.8	.8	.9	.9	1.0	1.0	1.3	1.5	1.6	1.8	1.8	1.7	1.7	1.7
DEGR.	170	160	150	150	150	150	130	100	100	110	100	250	110	250

THE HIGHEST CONCENTRATION OF 2.20 PPM OCCURRED AT RECEPTOR REC27.

JOB: Dravus and 20th- 2003 EXISTING RUN: Dravus and 20th- 2003 EXISTING

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SB DEP	8702.0	10379.0	8696.0	10170.0	209.	182.	AG	292.	18.5	.0	44.0		
2. SB DEP	8696.0	10170.0	8683.0	9680.0	490.	182.	AG	292.	18.5	.0	44.0		
3. SB LT Q	8713.0	10414.0	8714.3	10506.4	92.	1.	AG	610.	100.0	.0	12.0	.78	4.7
4. SB APP Q	8696.0	10414.0	8696.1	10423.0	9.	1.	AG	1064.	100.0	.0	24.0	.05	.5
5. SB APP	8696.0	10379.0	8699.0	10539.0	160.	1.	AG	269.	18.5	.0	44.0		
6. SB APP	8699.0	10539.0	8701.0	10681.0	142.	1.	AG	269.	18.5	.0	44.0		
7. SB APP	8701.0	10681.0	8707.0	11078.0	397.	1.	AG	269.	18.5	.0	44.0		
8. EB DEP	8716.0	10369.0	8880.0	10367.0	164.	91.	BR	713.	18.5	.0	44.0		
9. EB DEP	8880.0	10367.0	9316.0	10362.0	436.	91.	BR	713.	18.5	.0	44.0		
10. EB APP Q	8680.0	10371.0	8631.6	10372.2	48.	271.	AG	872.	100.0	.0	24.0	.25	2.5
11. EB APP Q	8555.0	10374.0	8506.6	10374.8	48.	271.	AG	872.	100.0	.0	24.0	.25	2.5
12. EB APP	8715.0	10370.0	8457.0	10375.0	258.	271.	AG	355.	18.5	.0	44.0		
13. EB APP	8457.0	10375.0	8110.0	10384.0	347.	271.	AG	355.	18.5	.0	44.0		
14. WB DEP	8717.0	10390.0	8520.0	10390.0	197.	270.	AG	495.	18.5	.0	44.0		
15. WB DEP	8520.0	10390.0	8158.0	10395.0	362.	271.	AG	495.	18.5	.0	44.0		
16. WB APP Q	8752.0	10390.0	8891.2	10386.0	139.	92.	BR	959.	100.0	.0	24.0	.74	7.1
17. WB APP Q	9029.0	10382.0	9168.2	10378.7	139.	91.	BR	959.	100.0	.0	24.0	.74	7.1
18. WB APP	8718.0	10394.0	8769.0	10389.0	51.	96.	BR	926.	18.5	.0	44.0		
19. WB APP	8769.0	10389.0	9181.0	10378.0	412.	92.	BR	926.	18.5	.0	44.0		
20. WB APP	9181.0	10378.0	9403.0	10374.0	222.	91.	BR	926.	18.5	.0	44.0		
21. NB DEP	8729.0	10379.0	8729.0	10414.0	35.	360.	AG	259.	18.5	.0	32.0		
22. NB DEP	8729.0	10414.0	8732.0	10590.0	176.	1.	AG	259.	18.5	.0	32.0		
23. NB DEP	8732.0	10590.0	8741.0	11221.0	631.	1.	AG	259.	18.5	.0	32.0		
24. NB RT Q	8742.0	10347.0	8723.0	10284.3	66.	197.	AG	645.	100.0	.0	12.0	.55	3.3
25. NB RT Q	8732.0	10314.0	8730.3	10248.5	66.	181.	AG	645.	100.0	.0	12.0	.55	3.3
26. NB APP LT Q	8724.0	10347.0	8721.5	10328.1	19.	188.	AG	645.	100.0	.0	12.0	.15	1.0
27. NB APP LT Q	8720.0	10317.0	8719.5	10298.0	19.	181.	AG	645.	100.0	.0	12.0	.15	1.0
28. NB APP	8724.0	10379.0	8720.0	10265.0	114.	182.	AG	209.	18.5	.0	32.0		
29. NB APP	8720.0	10265.0	8715.0	10157.0	108.	183.	AG	209.	18.5	.0	32.0		
30. NB APP	8715.0	10157.0	8712.0	10012.0	145.	181.	AG	209.	18.5	.0	32.0		
31. NB APP	8712.0	10012.0	8700.0	9539.0	473.	181.	AG	209.	18.5	.0	32.0		

JOB: Dravus and 20th- 2003 EXISTING RUN: Dravus and 20th- 2003 EXISTING

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. SB LT Q	100	70	4.0	215	1149	325.00	1	3
4. SB APP Q	100	61	4.0	54	1600	325.00	1	3
10. EB APP Q	100	50	4.0	355	1600	325.00	1	3
11. EB APP Q	100	50	4.0	355	1600	325.00	1	3
16. WB APP Q	100	55	4.0	926	1600	325.00	1	3
17. WB APP Q	100	55	4.0	926	1600	325.00	1	3
24. NB RT Q	100	74	4.0	162	1490	325.00	1	3
25. NB RT Q	100	74	4.0	162	1490	325.00	1	3
26. NB APP LT Q	100	74	4.0	47	1600	325.00	1	3
27. NB APP LT Q	100	74	4.0	47	1600	325.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	8768.0	9877.0	6.0
2. Receptor 2	8762.0	9952.0	6.0
3. Receptor 3	8763.0	10026.0	6.0
4. Receptor 4	8762.0	10101.0	6.0
5. Receptor 5	8767.0	10181.0	6.0
6. Receptor 6	8778.0	10250.0	6.0
7. Receptor 7	9263.0	10319.0	6.0
8. Receptor 8	9195.0	10327.0	6.0
9. Receptor 9	9114.0	10328.0	6.0
10. Receptor 10	9057.0	10327.0	6.0
11. Receptor 11	8983.0	10328.0	6.0
12. Receptor 12	8917.0	10333.0	6.0
13. Receptor 13	8832.0	10328.0	6.0
14. Receptor 14	8652.0	9882.0	6.0
15. Receptor 15	8656.0	9959.0	6.0
16. Receptor 16	8652.0	10032.0	6.0
17. Receptor 17	8667.0	10114.0	6.0
18. Receptor 18	8654.0	10179.0	6.0
19. Receptor 19	8663.0	10257.0	6.0
20. Receptor 20	8140.0	10348.0	6.0
21. Receptor 21	8209.0	10342.0	6.0
22. Receptor 22	8283.0	10339.0	6.0
23. Receptor 23	8369.0	10334.0	6.0
24. Receptor 24	8437.0	10337.0	6.0
25. Receptor 25	8515.0	10337.0	6.0
26. Receptor 26	8590.0	10333.0	6.0
27. Receptor 27	9341.0	10414.0	6.0
28. Receptor 28	9269.0	10411.0	6.0
29. Receptor 29	9186.0	10418.0	6.0
30. Receptor 30	9122.0	10419.0	6.0
31. Receptor 31	9043.0	10418.0	6.0
32. Receptor 32	8966.0	10420.0	6.0
33. Receptor 33	8893.0	10422.0	6.0
34. Receptor 34	8817.0	10425.0	6.0
35. Receptor 35	8772.0	10952.0	6.0

JOB: Dravus and 20th- 2003 EXISTING RUN: Dravus and 20th- 2003 EXISTING

DATE : 12/ 4/ 3
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Receptor 36	8770.0	10879.0	6.0
37. Receptor 37	8767.0	10803.0	6.0
38. Receptor 38	8768.0	10728.0	6.0
39. Receptor 39	8768.0	10653.0	6.0
40. Receptor 40	8766.0	10577.0	6.0
41. Receptor 41	8771.0	10507.0	6.0
42. Receptor 42	8666.0	10954.0	6.0
43. Receptor 43	8662.0	10875.0	6.0
44. Receptor 44	8666.0	10801.0	6.0
45. Receptor 45	8658.0	10735.0	6.0
46. Receptor 46	8658.0	10647.0	6.0
47. Receptor 47	8657.0	10578.0	6.0
48. Receptor 48	8658.0	10501.0	6.0
49. Receptor 49	8217.0	10433.0	6.0
50. Receptor 50	8289.0	10434.0	6.0
51. Receptor 51	8365.0	10429.0	6.0
52. Receptor 52	8443.0	10438.0	6.0
53. Receptor 53	8511.0	10432.0	6.0
54. Receptor 54	8588.0	10429.0	6.0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.7	.8	1.0	1.5	1.5	1.5	.7	.7	2.6	2.6	.8	.8	2.4	.6	.5	.7	.9	.7	1.3	.2
10.	.4	.6	.8	1.0	1.0	1.4	.7	.7	2.5	2.5	.7	.8	2.4	.8	1.0	1.1	1.5	1.5	1.6	.2
20.	.4	.5	.5	.7	1.0	1.4	.7	.7	2.6	2.5	.8	.8	2.4	1.0	1.0	1.3	2.0	1.8	1.7	.3
30.	.4	.4	.4	.5	.9	1.3	.7	.8	2.6	2.6	1.2	.8	2.3	.7	.8	1.1	1.7	2.5	1.7	.4
40.	.4	.5	.5	.5	.6	1.0	.7	.8	2.3	2.7	1.8	.8	2.1	.7	.8	.8	1.3	2.3	2.8	.4
50.	.2	.3	.6	.6	.7	.9	.6	.9	1.8	2.7	2.4	1.2	1.6	.6	.7	.8	.9	1.7	3.6	.4
60.	.0	.0	.3	.5	1.0	.9	.6	.9	1.4	2.6	2.9	1.7	1.5	.3	.5	.8	.9	1.0	3.3	.6
70.	.0	.0	.0	.2	.6	1.0	.4	.8	1.1	2.0	2.7	2.5	1.6	.2	.2	.2	.7	.8	2.8	.7
80.	.0	.0	.0	.0	.0	.6	.1	.5	.8	1.1	1.8	2.4	1.8	.2	.2	.2	.3	.5	1.7	1.3
90.	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.8	1.2	1.1	.2	.3	.2	.3	.2	1.0	1.3
100.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2	.2	.3	.3	.6	.4
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.3	.1	.3	.0
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.2	.3	.2	.3	.0
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.2	.3	.0
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.4	.0
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.5	.3	.3	.0
170.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.4	.3	.5	.0
180.	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.3	.1	.1	.0
190.	.1	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0
200.	.2	.2	.2	.2	.3	.2	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
210.	.2	.2	.2	.3	.2	.2	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0
220.	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0
230.	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.4	.0	.0	.0	.0	.0	.0	.0
240.	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.2	.9	.0	.0	.0	.0	.0	.0	.0
250.	.2	.2	.2	.2	.2	.3	.0	.0	.1	.1	.3	.6	1.4	.0	.0	.0	.0	.0	.0	.0
260.	.2	.2	.2	.2	.2	.5	.3	.4	.3	.4	.5	1.0	1.5	.0	.0	.0	.0	.0	.0	.0
270.	.2	.2	.2	.2	.2	.8	1.4	1.4	1.2	1.2	1.5	1.5	2.2	.0	.0	.0	.0	.0	.0	.0
280.	.2	.2	.2	.2	.2	1.2	2.5	2.7	2.2	2.3	2.5	2.4	1.9	.0	.0	.0	.0	.0	.2	.0
290.	.2	.2	.2	.2	.4	1.9	2.8	3.2	2.1	2.2	2.9	3.0	1.9	.0	.0	.0	.0	.0	.3	.0
300.	.2	.2	.2	.3	.4	2.6	2.2	3.2	2.4	1.5	2.4	3.5	2.0	.0	.0	.0	.2	.2	.6	.1
310.	.2	.2	.3	.4	.9	3.0	1.5	3.1	2.7	1.1	1.5	3.2	2.6	.0	.0	.1	.2	.3	.7	.1
320.	.2	.3	.4	.6	1.1	2.9	1.1	2.5	2.7	1.1	1.0	2.6	3.1	.0	.1	.1	.2	.4	.6	.1
330.	.3	.3	.4	.8	1.8	2.8	.8	1.9	2.7	1.6	.8	2.0	2.9	.1	.2	.2	.3	.5	.4	.1
340.	.3	.5	1.0	1.2	2.5	1.7	.7	1.2	2.7	2.0	.7	1.5	2.6	.1	.1	.2	.5	.5	.6	.2
350.	.6	.7	.9	1.5	2.2	1.6	.7	.9	2.6	2.3	.7	1.0	2.5	.2	.2	.3	.5	.5	.9	.2
360.	.7	.8	1.0	1.5	1.5	1.5	.7	.7	2.6	2.6	.8	.8	2.4	.6	.5	.7	.9	.7	1.3	.2
MAX	.7	.8	1.0	1.5	2.5	3.0	2.8	3.2	2.7	2.7	2.9	3.5	3.1	1.0	1.0	1.3	2.0	2.5	3.6	1.3
DEGR.	0	0	340	0	340	310	290	290	310	40	60	300	320	20	20	20	20	30	50	80

JOB: Dravus and 20th- 2003 EXISTING RUN: Dravus and 20th- 2003 EXISTING

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0. *	.4	.4	.4	.4	2.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2
10. *	.4	.4	.4	.4	2.3	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. *	.4	.4	.4	.4	2.4	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30. *	.4	.4	.4	.4	2.3	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40. *	.4	.4	.4	.5	2.1	1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50. *	.4	.4	.4	1.0	1.7	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60. *	.5	.5	.9	1.5	1.8	2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
70. *	.8	1.1	1.3	2.3	2.1	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
80. *	1.4	1.6	2.2	2.6	2.6	3.0	.0	.0	.0	.0	.1	.1	.3	.2	.0	.0	.0	.0	.0	.0
90. *	1.4	1.7	1.6	2.1	2.1	2.3	.0	.1	.2	.2	.7	1.2	1.2	1.2	.0	.0	.0	.0	.0	.0
100. *	.5	.6	.5	.8	1.3	1.5	.1	.3	.5	.6	1.9	2.7	2.2	2.1	.0	.0	.0	.0	.0	.1
110. *	.0	.0	.1	.2	.5	.9	.2	.6	.8	1.2	3.2	3.3	2.2	2.5	.0	.0	.0	.0	.2	.6
120. *	.0	.0	.0	.0	.2	.5	.3	.7	.9	1.6	3.7	2.5	1.5	3.0	.0	.0	.0	.2	.6	.9
130. *	.0	.0	.0	.0	.0	.2	.4	.8	.9	2.1	3.6	1.7	1.1	3.3	.0	.2	.3	.6	.6	.8
140. *	.0	.0	.0	.1	.1	.1	.5	.7	.8	2.7	3.3	1.0	.8	3.2	.2	.4	.5	.5	.5	.7
150. *	.0	.0	.0	.1	.1	.1	.5	.8	.8	2.9	3.1	.8	.8	3.1	.4	.4	.4	.4	.6	1.0
160. *	.0	.0	.0	.0	.1	.1	.4	.8	.7	2.9	3.1	.8	.9	3.1	.4	.4	.5	.5	.7	1.1
170. *	.0	.0	.0	.0	.0	.1	.4	.8	.7	2.8	2.9	.7	1.1	2.9	.3	.4	.6	.7	.8	1.1
180. *	.0	.0	.0	.0	.0	.0	.5	.8	.8	2.8	2.9	.8	1.6	3.0	.6	.9	.9	1.0	1.2	1.4
190. *	.0	.0	.0	.0	.0	.0	.4	.8	1.0	2.8	2.6	.8	2.3	3.1	.7	.8	.7	.9	1.4	2.0
200. *	.0	.0	.0	.0	.0	.0	.5	.8	1.6	2.9	2.0	.8	2.9	3.5	.5	.6	.6	.8	1.1	1.9
210. *	.0	.0	.0	.0	.0	.0	.7	.8	2.1	3.0	1.4	.9	3.3	4.2	.4	.4	.5	.7	1.1	1.6
220. *	.0	.0	.0	.0	.0	.0	.8	.8	2.7	3.0	1.1	.9	3.5	4.3	.3	.3	.5	.4	.5	1.2
230. *	.0	.0	.0	.0	.0	.0	.8	1.1	3.2	3.2	1.0	1.5	4.3	4.0	.2	.2	.3	.3	.4	.8
240. *	.0	.0	.0	.0	.0	.0	1.1	1.6	3.6	3.2	1.4	2.5	4.6	3.2	.2	.2	.2	.2	.3	.4
250. *	.0	.0	.0	.0	.0	.0	1.7	2.6	3.9	3.0	2.1	3.3	4.3	2.6	.2	.2	.2	.2	.2	.4
260. *	.0	.0	.0	.0	.0	.0	2.7	3.4	3.4	2.6	2.7	3.4	3.1	2.2	.2	.2	.2	.2	.2	.2
270. *	.0	.0	.1	.2	.2	.2	2.0	2.5	1.9	1.6	1.8	2.2	1.8	1.6	.2	.2	.2	.2	.2	.2
280. *	.1	.1	.3	.4	.4	.7	.5	.8	.5	.4	.6	.6	.7	.9	.2	.2	.2	.2	.2	.2
290. *	.1	.3	.4	.6	.6	1.4	.0	.0	.0	.1	.1	.2	.3	.8	.2	.2	.2	.2	.2	.3
300. *	.2	.4	.4	.5	.5	1.8	.0	.0	.0	.0	.0	.1	.3	.7	.2	.2	.2	.2	.2	.2
310. *	.3	.4	.4	.4	.5	1.8	.0	.0	.0	.0	.0	.0	.0	.5	.2	.2	.2	.2	.2	.2
320. *	.4	.4	.4	.4	.5	1.4	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.2
330. *	.4	.4	.4	.4	.6	.8	.0	.0	.0	.0	.0	.1	.1	.2	.3	.3	.3	.3	.3	.4
340. *	.4	.4	.4	.4	1.0	.5	.0	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.3	.3
350. *	.4	.4	.4	.4	1.5	.4	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.3	.3	.3
360. *	.4	.4	.4	.4	2.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2
MAX *	1.4	1.7	2.2	2.6	2.6	3.0	2.7	3.4	3.9	3.2	3.7	3.4	4.6	4.3	.7	.9	.9	1.0	1.4	2.0
DEGR. *	90	90	80	80	80	70	260	260	250	230	120	260	240	220	190	180	180	180	190	190

JOB: Dravus and 20th- 2003 EXISTING RUN: Dravus and 20th- 2003 EXISTING

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0.	.1	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
10.	.0	.1	.2	.3	.2	.3	.2	.3	.0	.0	.0	.0	.0	.1
20.	.0	.2	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.2
30.	.0	.3	.3	.3	.3	.2	.3	.2	.0	.0	.0	.0	.1	.2
40.	.0	.3	.3	.3	.3	.2	.2	.3	.0	.0	.0	.0	.0	.1
50.	.0	.2	.2	.3	.2	.3	.2	.3	.0	.0	.0	.0	.0	.2
60.	.0	.2	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.1	.5
70.	.0	.2	.2	.2	.2	.2	.2	.3	.0	.0	.1	.1	.2	.7
80.	.0	.2	.2	.2	.2	.2	.1	.5	.2	.2	.4	.4	.7	1.2
90.	.1	.2	.2	.2	.2	.2	.2	.9	1.0	1.3	1.5	1.5	1.9	2.4
100.	.6	.2	.2	.2	.2	.2	.3	1.8	1.6	2.0	2.1	2.2	2.3	2.9
110.	1.1	.2	.2	.2	.2	.6	.8	2.4	1.1	1.1	1.7	2.1	2.1	2.6
120.	1.0	.2	.2	.4	.7	.8	1.0	2.7	.5	.7	1.0	1.7	1.8	2.3
130.	1.0	.3	.5	.7	.7	.9	1.6	2.6	.5	.5	.5	1.4	1.5	2.5
140.	1.4	.7	.7	.8	.8	1.2	1.9	2.4	.5	.5	.5	.8	1.2	2.1
150.	1.5	.7	.8	.8	1.0	1.2	2.0	2.0	.5	.5	.5	.6	1.5	1.3
160.	1.6	.6	.8	1.0	1.2	1.6	1.8	2.0	.4	.3	.4	.3	2.0	.5
170.	1.6	.8	.8	1.0	1.0	1.3	1.6	1.7	.3	.3	.3	.4	1.7	.4
180.	1.7	.6	.5	.7	.6	.7	1.1	1.1	.3	.3	.3	.3	1.3	.3
190.	1.9	.2	.2	.2	.3	.5	.5	.7	.3	.3	.3	.3	.8	.4
200.	1.7	.1	.1	.1	.2	.4	.5	.4	.3	.3	.4	.3	.5	.6
210.	1.7	.0	.1	.2	.2	.2	.5	.5	.4	.5	.5	.3	.3	1.2
220.	1.8	.0	.0	.1	.1	.2	.3	.6	.4	.5	.5	.3	.5	1.7
230.	1.8	.0	.0	.0	.1	.2	.3	.7	.4	.5	.5	.5	.5	1.7
240.	1.7	.0	.0	.0	.0	.1	.2	.4	.3	.5	.5	.5	.5	1.3
250.	1.6	.0	.0	.0	.0	.0	.1	.2	.2	.3	.5	.5	.5	.9
260.	1.1	.0	.0	.0	.0	.0	.0	.2	.0	.2	.4	.3	.5	.5
270.	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.3
280.	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
290.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
300.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
310.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340.	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
360.	.1	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0
MAX	1.9	.8	.8	1.0	1.2	1.6	2.0	2.7	1.6	2.0	2.1	2.2	2.3	2.9
DEGR.	190	170	150	160	160	160	150	120	100	100	100	100	100	100

CONCENTRATION (PPM)

THE HIGHEST CONCENTRATION OF 4.60 PPM OCCURRED AT RECEPTOR REC33.

JOB: Dravus and 20th- 2010 RUN: Dravus and 20th- 2010

DATE : 12/ 4/ 3
TIME : 10: 1:24

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SB DEP	8702.0	10379.0	8696.0	10170.0	209.	182.	AG	400.	9.8	.0	44.0		
2. SB DEP	8696.0	10170.0	8683.0	9680.0	490.	182.	AG	400.	9.8	.0	44.0		
3. SB LT Q	8713.0	10414.0	8714.6	10528.8	115.	1.	AG	299.	100.0	.0	12.0	.88	5.8
4. SB APP Q	8696.0	10414.0	8696.2	10424.0	10.	1.	AG	507.	100.0	.0	24.0	.06	.5
5. SB APP	8696.0	10379.0	8699.0	10539.0	160.	1.	AG	280.	9.8	.0	44.0		
6. SB APP	8699.0	10539.0	8701.0	10681.0	142.	1.	AG	280.	9.8	.0	44.0		
7. SB APP	8701.0	10681.0	8707.0	11078.0	397.	1.	AG	280.	9.8	.0	44.0		
8. EB DEP	8716.0	10369.0	8880.0	10367.0	164.	91.	BR	850.	9.8	.0	44.0		
9. EB DEP	8880.0	10367.0	9316.0	10362.0	436.	91.	BR	850.	9.8	.0	44.0		
10. EB APP Q	8680.0	10371.0	8625.3	10372.3	55.	271.	AG	416.	100.0	.0	24.0	.28	2.8
11. EB APP Q	8555.0	10374.0	8500.3	10374.9	55.	271.	AG	416.	100.0	.0	24.0	.28	2.8
12. EB APP	8715.0	10370.0	8457.0	10375.0	258.	271.	AG	400.	9.8	.0	44.0		
13. EB APP	8457.0	10375.0	8110.0	10384.0	347.	271.	AG	400.	9.8	.0	44.0		
14. WB DEP	8717.0	10390.0	8520.0	10390.0	197.	270.	AG	510.	9.8	.0	44.0		
15. WB DEP	8520.0	10390.0	8158.0	10395.0	362.	271.	AG	510.	9.8	.0	44.0		
16. WB APP Q	8752.0	10390.0	8936.2	10384.7	184.	92.	BR	466.	100.0	.0	24.0	.86	9.4
17. WB APP Q	9029.0	10382.0	9213.2	10377.6	184.	91.	BR	466.	100.0	.0	24.0	.86	9.4
18. WB APP	8718.0	10394.0	8769.0	10389.0	51.	96.	BR	1050.	9.8	.0	44.0		
19. WB APP	8769.0	10389.0	9181.0	10378.0	412.	92.	BR	1050.	9.8	.0	44.0		
20. WB APP	9181.0	10378.0	9403.0	10374.0	222.	91.	BR	1050.	9.8	.0	44.0		
21. NB DEP	8729.0	10379.0	8729.0	10414.0	35.	360.	AG	280.	9.8	.0	32.0		
22. NB DEP	8729.0	10414.0	8732.0	10590.0	176.	1.	AG	280.	9.8	.0	32.0		
23. NB DEP	8732.0	10590.0	8741.0	11221.0	631.	1.	AG	280.	9.8	.0	32.0		
24. NB RT Q	8742.0	10347.0	8715.0	10258.0	93.	197.	AG	283.	100.0	.0	12.0	.68	4.7
25. NB RT Q	8732.0	10314.0	8729.6	10221.1	93.	181.	AG	283.	100.0	.0	12.0	.68	4.7
26. NB APP LT Q	8724.0	10347.0	8720.8	10323.3	24.	188.	AG	304.	100.0	.0	12.0	.18	1.2
27. NB APP LT Q	8720.0	10317.0	8719.4	10293.1	24.	181.	AG	304.	100.0	.0	12.0	.18	1.2
28. NB APP	8724.0	10379.0	8720.0	10265.0	114.	182.	AG	310.	9.8	.0	32.0		
29. NB APP	8720.0	10265.0	8715.0	10157.0	108.	183.	AG	310.	9.8	.0	32.0		
30. NB APP	8715.0	10157.0	8712.0	10012.0	145.	181.	AG	310.	9.8	.0	32.0		
31. NB APP	8712.0	10012.0	8700.0	9539.0	473.	181.	AG	310.	9.8	.0	32.0		

JOB: Dravus and 20th- 2010 RUN: Dravus and 20th- 2010

DATE : 12/ 4/ 3
TIME : 10: 1:24

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. SB LT Q	100	72	4.0	220	1137	155.00	1	3
4. SB APP Q	100	61	4.0	60	1600	155.00	1	3
10. EB APP Q	100	50	4.0	400	1600	155.00	1	3
11. EB APP Q	100	50	4.0	400	1600	155.00	1	3
16. WB APP Q	100	56	4.0	1050	1600	155.00	1	3
17. WB APP Q	100	56	4.0	1050	1600	155.00	1	3
24. NB RT Q	100	68	4.0	250	1405	155.00	1	3
25. NB RT Q	100	68	4.0	250	1405	155.00	1	3
26. NB APP LT Q	100	73	4.0	60	1600	155.00	1	3
27. NB APP LT Q	100	73	4.0	60	1600	155.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	8768.0	9877.0	6.0
2. Receptor 2	8762.0	9952.0	6.0
3. Receptor 3	8763.0	10026.0	6.0
4. Receptor 4	8762.0	10101.0	6.0
5. Receptor 5	8767.0	10181.0	6.0
6. Receptor 6	8778.0	10250.0	6.0
7. Receptor 7	9263.0	10319.0	6.0
8. Receptor 8	9195.0	10327.0	6.0
9. Receptor 9	9114.0	10328.0	6.0
10. Receptor 10	9057.0	10327.0	6.0
11. Receptor 11	8983.0	10328.0	6.0
12. Receptor 12	8917.0	10333.0	6.0
13. Receptor 13	8832.0	10328.0	6.0
14. Receptor 14	8652.0	9882.0	6.0
15. Receptor 15	8656.0	9959.0	6.0
16. Receptor 16	8652.0	10032.0	6.0
17. Receptor 17	8667.0	10114.0	6.0
18. Receptor 18	8654.0	10179.0	6.0
19. Receptor 19	8663.0	10257.0	6.0
20. Receptor 20	8140.0	10348.0	6.0
21. Receptor 21	8209.0	10342.0	6.0
22. Receptor 22	8283.0	10339.0	6.0
23. Receptor 23	8369.0	10334.0	6.0
24. Receptor 24	8437.0	10337.0	6.0
25. Receptor 25	8515.0	10337.0	6.0
26. Receptor 26	8590.0	10333.0	6.0
27. Receptor 27	9341.0	10414.0	6.0
28. Receptor 28	9269.0	10411.0	6.0
29. Receptor 29	9186.0	10418.0	6.0
30. Receptor 30	9122.0	10419.0	6.0
31. Receptor 31	9043.0	10418.0	6.0
32. Receptor 32	8966.0	10420.0	6.0
33. Receptor 33	8893.0	10422.0	6.0
34. Receptor 34	8817.0	10425.0	6.0
35. Receptor 35	8772.0	10952.0	6.0

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
36. Receptor 36	8770.0	10879.0	6.0
37. Receptor 37	8767.0	10803.0	6.0
38. Receptor 38	8768.0	10728.0	6.0
39. Receptor 39	8768.0	10653.0	6.0
40. Receptor 40	8766.0	10577.0	6.0
41. Receptor 41	8771.0	10507.0	6.0
42. Receptor 42	8666.0	10954.0	6.0
43. Receptor 43	8662.0	10875.0	6.0
44. Receptor 44	8666.0	10801.0	6.0
45. Receptor 45	8658.0	10735.0	6.0
46. Receptor 46	8658.0	10647.0	6.0
47. Receptor 47	8657.0	10578.0	6.0
48. Receptor 48	8658.0	10501.0	6.0
49. Receptor 49	8217.0	10433.0	6.0
50. Receptor 50	8289.0	10434.0	6.0
51. Receptor 51	8365.0	10429.0	6.0
52. Receptor 52	8443.0	10438.0	6.0
53. Receptor 53	8511.0	10432.0	6.0
54. Receptor 54	8588.0	10429.0	6.0

(X, Y, Z: COORDINATES (FT))

JOB: Dravus and 20th- 2010 RUN: Dravus and 20th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (PPM)																			
0.	.4	.4	.5	.7	.7	.7	.4	1.2	1.3	1.3	.4	1.2	1.2	.2	.3	.2	.4	.3	.7	.1
10.	.3	.3	.3	.5	.6	.7	.4	1.1	1.3	1.3	.4	1.1	1.2	.5	.5	.7	.9	.5	.8	.1
20.	.2	.3	.3	.4	.6	.7	.4	.9	1.3	1.3	.5	.9	1.2	.5	.7	.7	1.3	.8	.7	.2
30.	.2	.4	.4	.4	.6	.7	.4	.7	1.3	1.3	.6	.7	1.2	.6	.6	.6	1.1	1.3	1.0	.2
40.	.1	.4	.4	.4	.4	.8	.4	.7	1.4	1.4	1.0	.7	1.4	.4	.4	.5	.7	1.4	1.6	.2
50.	.0	.1	.3	.4	.5	.7	.3	.6	1.5	1.5	1.4	.7	1.4	.3	.3	.6	.5	1.3	1.8	.2
60.	.0	.0	.1	.3	.5	.6	.3	.6	1.3	1.6	1.6	.9	1.3	.2	.3	.4	.6	.9	2.2	.3
70.	.0	.0	.0	.0	.4	.5	.2	.5	1.0	1.4	1.6	1.4	1.3	.2	.2	.2	.3	.7	1.7	.4
80.	.0	.0	.0	.0	.0	.4	.1	.3	.5	.9	1.1	1.4	1.2	.2	.2	.2	.2	.3	1.2	.7
90.	.0	.0	.0	.0	.0	.0	.0	.2	.2	.3	.5	.7	.7	.2	.2	.2	.2	.2	.8	.7
100.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.1	.2	.1	.7	.0
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.2	.1	.5	.0
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.1	.2	.1	.4	.0
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.3	.0
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.2	.0
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.2	.3	.2	.1	.0
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.3	.3	.1	.2	.0
170.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.3	.2	.3	.2	.2	.0
180.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.3	.1	.1	.0
190.	.0	.1	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
200.	.1	.2	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
210.	.2	.2	.2	.1	.2	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
220.	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
230.	.2	.2	.2	.2	.2	.3	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0
240.	.2	.2	.2	.2	.1	.5	.0	.0	.0	.0	.0	.1	.6	.0	.0	.0	.0	.0	.0	.0
250.	.2	.2	.1	.2	.1	.6	.0	.0	.0	.1	.2	.3	.8	.0	.0	.0	.0	.0	.0	.0
260.	.2	.2	.1	.2	.1	.6	.0	.1	.2	.2	.2	.4	.8	.0	.0	.0	.0	.0	.0	.0
270.	.2	.2	.2	.2	.2	.8	.5	.6	.8	.8	.6	.7	1.0	.0	.0	.0	.0	.0	.0	.0
280.	.2	.2	.2	.2	.2	.8	1.4	1.6	1.2	1.3	1.2	1.1	1.0	.0	.0	.0	.0	.0	.0	.0
290.	.2	.2	.2	.2	.2	1.0	1.8	1.8	1.3	1.5	1.5	1.6	1.1	.0	.0	.0	.0	.0	.2	.0
300.	.2	.2	.2	.2	.4	1.5	1.6	1.7	1.4	1.1	1.7	1.8	1.0	.0	.0	.0	.0	.0	.3	.0
310.	.2	.2	.2	.3	.5	1.8	1.4	1.7	1.4	.7	1.5	1.8	1.4	.0	.0	.0	.0	.1	.3	.0
320.	.2	.1	.3	.2	.9	1.6	.9	1.5	1.5	.8	1.1	1.7	1.6	.0	.0	.0	.1	.1	.4	.1
330.	.2	.3	.3	.5	1.2	1.2	.6	1.3	1.4	.8	.6	1.4	1.4	.0	.0	.1	.1	.2	.4	.1
340.	.1	.3	.4	.7	1.4	.9	.4	1.4	1.3	1.0	.5	1.3	1.3	.0	.1	.1	.1	.2	.4	.1
350.	.4	.4	.7	1.0	1.2	.8	.4	1.4	1.3	1.2	.4	1.3	1.2	.1	.1	.2	.1	.2	.6	.1
360.	.4	.4	.5	.7	.7	.7	.4	1.2	1.3	1.3	.4	1.2	1.2	.2	.3	.2	.4	.3	.7	.1
MAX	.4	.4	.7	1.0	1.4	1.8	1.8	1.8	1.5	1.6	1.7	1.8	1.6	.6	.7	.7	1.3	1.4	2.2	.7
DEGR.	0	0	350	350	340	310	290	290	50	60	300	300	320	30	20	10	20	40	60	80

JOB: Dravus and 20th- 2010 RUN: Dravus and 20th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	.2	.2	.2	.2	1.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1
10.	.2	.2	.2	.2	1.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20.	.2	.2	.2	.2	1.1	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30.	.2	.2	.2	.2	1.1	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40.	.2	.2	.2	.3	1.1	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50.	.2	.2	.2	.5	.9	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60.	.2	.2	.4	.9	.8	1.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
70.	.4	.4	.9	1.0	1.0	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
80.	.8	1.2	1.1	1.5	1.3	1.6	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0
90.	.6	.9	1.0	1.1	1.4	1.4	.0	.1	.1	.1	.6	.7	.8	.8	.0	.0	.0	.0	.0	.0
100.	.1	.2	.2	.3	.5	.8	.0	.2	.2	.6	1.4	1.6	1.3	1.6	.0	.0	.0	.0	.0	.0
110.	.0	.0	.1	.2	.2	.6	.1	.3	.5	1.2	1.9	1.9	1.3	1.8	.0	.0	.0	.0	.0	.4
120.	.0	.0	.0	.0	.1	.4	.2	.4	.6	1.6	2.0	1.4	1.1	1.9	.0	.0	.0	.1	.3	.5
130.	.0	.0	.0	.0	.0	.3	.3	.5	.7	1.6	1.8	.9	1.2	1.9	.0	.0	.1	.3	.4	.5
140.	.0	.0	.0	.0	.0	.1	.3	.4	.9	1.6	1.7	.6	1.4	1.8	.1	.1	.4	.4	.4	.5
150.	.0	.0	.0	.0	.0	.0	.3	.5	1.2	1.6	1.6	.5	1.6	1.6	.1	.2	.4	.4	.4	.5
160.	.0	.0	.0	.0	.0	.1	.3	.5	1.4	1.6	1.6	.5	1.6	1.6	.3	.3	.3	.3	.4	.6
170.	.0	.0	.0	.0	.0	.1	.3	.5	1.4	1.5	1.6	.5	1.6	1.6	.2	.3	.3	.4	.5	.6
180.	.0	.0	.0	.0	.0	.0	.3	.5	1.5	1.5	1.5	.5	1.6	1.6	.2	.2	.4	.5	.6	.7
190.	.0	.0	.0	.0	.0	.0	.3	.5	1.5	1.5	1.4	.5	1.6	1.7	.2	.3	.4	.6	.7	.8
200.	.0	.0	.0	.0	.0	.0	.4	.5	1.6	1.6	1.1	.6	1.6	2.0	.2	.1	.3	.3	.5	.8
210.	.0	.0	.0	.0	.0	.0	.4	.5	1.6	1.6	.8	.8	1.7	2.3	.2	.2	.2	.3	.4	1.1
220.	.0	.0	.0	.0	.0	.0	.5	.6	1.6	1.6	.6	1.1	1.9	2.5	.2	.2	.2	.3	.2	.9
230.	.0	.0	.0	.0	.0	.0	.5	.8	1.7	1.7	.5	1.7	2.2	2.1	.2	.2	.2	.1	.3	.4
240.	.0	.0	.0	.0	.0	.0	.8	1.4	1.9	1.7	1.0	2.1	2.2	1.5	.2	.2	.2	.1	.2	.3
250.	.0	.0	.0	.0	.0	.0	1.2	2.1	2.1	1.7	1.5	2.4	2.0	1.4	.2	.2	.2	.1	.2	.1
260.	.0	.0	.0	.0	.0	.0	1.5	2.0	1.9	1.6	1.7	1.7	1.8	1.0	.2	.2	.2	.2	.2	.2
270.	.0	.0	.0	.1	.1	.2	1.1	1.4	1.0	1.0	1.1	1.0	.9	.8	.2	.2	.2	.2	.2	.2
280.	.0	.1	.2	.2	.2	.5	.3	.5	.3	.3	.4	.3	.3	.4	.2	.2	.2	.2	.1	.2
290.	.1	.2	.2	.3	.3	.7	.0	.0	.0	.0	.1	.1	.2	.3	.2	.2	.2	.2	.1	.1
300.	.1	.2	.2	.2	.3	.9	.0	.0	.0	.0	.0	.1	.1	.3	.2	.2	.2	.2	.1	.2
310.	.2	.2	.2	.2	.2	1.0	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2	.1	.2
320.	.2	.2	.2	.2	.3	.7	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.1
330.	.2	.2	.2	.2	.5	.4	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.1
340.	.2	.2	.2	.2	.7	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2
350.	.2	.2	.2	.2	.9	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.2
360.	.2	.2	.2	.2	1.1	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1
MAX	.8	1.2	1.1	1.5	1.4	1.6	1.5	2.1	2.1	1.7	2.0	2.4	2.2	2.5	.3	.3	.4	.6	.7	1.1
DEGR.	80	80	80	80	90	70	260	250	250	230	120	250	230	220	160	160	140	190	190	210

JOB: Dravus and 20th- 2010 RUN: Dravus and 20th- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
0.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.	.0	.0	.1	.1	.1	.2	.2	.3	.0	.0	.0	.0	.0	.0
20.	.0	.1	.2	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0
30.	.0	.2	.2	.2	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0
40.	.0	.2	.2	.2	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0
50.	.0	.2	.2	.2	.2	.1	.2	.1	.0	.0	.0	.0	.0	.1
60.	.0	.1	.1	.2	.1	.1	.1	.3	.0	.0	.0	.0	.1	.2
70.	.0	.1	.1	.1	.1	.1	.1	.4	.0	.0	.1	.1	.2	.3
80.	.0	.1	.1	.1	.1	.1	.1	.5	.1	.2	.2	.2	.3	.6
90.	.0	.1	.1	.1	.1	.1	.1	.6	.6	.8	.9	.6	.8	1.2
100.	.5	.1	.1	.1	.1	.1	.2	1.0	.8	.9	1.2	1.1	1.2	1.6
110.	.6	.1	.1	.1	.1	.2	.5	1.3	.4	.8	1.0	.9	1.1	1.4
120.	.7	.1	.1	.2	.2	.5	.8	1.7	.3	.4	.7	1.0	.8	1.2
130.	.8	.3	.3	.3	.5	.6	.9	1.3	.3	.3	.3	.8	.6	1.5
140.	1.0	.3	.4	.6	.5	.6	1.2	1.2	.3	.2	.3	.5	.6	1.2
150.	.9	.5	.5	.5	.4	.9	1.1	.9	.2	.2	.2	.3	.8	.8
160.	.8	.3	.5	.5	.4	.9	.9	1.2	.2	.2	.2	.2	.9	.3
170.	.7	.3	.3	.3	.7	.6	.6	.7	.2	.2	.2	.1	1.0	.3
180.	.9	.1	.2	.2	.2	.2	.3	.5	.2	.2	.2	.2	.8	.2
190.	1.1	.0	.0	.0	.2	.1	.2	.5	.2	.2	.2	.2	.6	.2
200.	.8	.0	.0	.1	.1	.1	.3	.3	.2	.2	.2	.2	.4	.4
210.	.8	.0	.0	.0	.1	.1	.2	.3	.2	.2	.2	.2	.3	.6
220.	1.1	.0	.0	.0	.0	.0	.1	.4	.2	.2	.3	.2	.2	.8
230.	1.3	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.2	.3	.8
240.	1.1	.0	.0	.0	.0	.0	.1	.2	.2	.3	.3	.3	.3	.7
250.	.8	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.3	.3	.6
260.	.7	.0	.0	.0	.0	.0	.0	.1	.0	.1	.2	.2	.3	.3
270.	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1
280.	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
290.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
300.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
310.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
360.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX	1.3	.5	.5	.6	.7	.9	1.2	1.7	.8	.9	1.2	1.1	1.2	1.6
DEGR.	230	150	150	140	170	150	140	120	100	100	100	100	100	100

THE HIGHEST CONCENTRATION OF 2.50 PPM OCCURRED AT RECEPTOR REC34.

JOB: Dravus and 20th- 2030 RUN: Dravus and 20th- 2030

DATE : 12/ 4/ 3
TIME : 10: 3:10

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SB DEP	8702.0	10379.0	8696.0	10170.0	209.	182.	AG	550.	6.2	.0	44.0		
2. SB DEP	8696.0	10170.0	8683.0	9680.0	490.	182.	AG	550.	6.2	.0	44.0		
3. SB LT Q	8713.0	10414.0	8714.3	10512.0	98.	1.	AG	171.	100.0	.0	12.0	.81	5.0
4. SB APP Q	8696.0	10414.0	8696.2	10424.0	10.	1.	AG	299.	100.0	.0	24.0	.06	.5
5. SB APP	8696.0	10379.0	8699.0	10539.0	160.	1.	AG	280.	6.2	.0	44.0		
6. SB APP	8699.0	10539.0	8701.0	10681.0	142.	1.	AG	280.	6.2	.0	44.0		
7. SB APP	8701.0	10681.0	8707.0	11078.0	397.	1.	AG	280.	6.2	.0	44.0		
8. EB DEP	8716.0	10369.0	8880.0	10367.0	164.	91.	BR	1050.	6.2	.0	44.0		
9. EB DEP	8880.0	10367.0	9316.0	10362.0	436.	91.	BR	1050.	6.2	.0	44.0		
10. EB APP Q	8680.0	10371.0	8622.1	10372.4	58.	271.	AG	260.	100.0	.0	24.0	.30	2.9
11. EB APP Q	8555.0	10374.0	8497.0	10375.0	58.	271.	AG	260.	100.0	.0	24.0	.30	2.9
12. EB APP	8715.0	10370.0	8457.0	10375.0	258.	271.	AG	400.	6.2	.0	44.0		
13. EB APP	8457.0	10375.0	8110.0	10384.0	347.	271.	AG	400.	6.2	.0	44.0		
14. WB DEP	8717.0	10390.0	8520.0	10390.0	197.	270.	AG	510.	6.2	.0	44.0		
15. WB DEP	8520.0	10390.0	8158.0	10395.0	362.	271.	AG	510.	6.2	.0	44.0		
16. WB APP Q	8752.0	10390.0	9137.8	10378.9	386.	92.	BR	279.	100.0	.0	24.0	1.01	19.6
17. WB APP Q	9029.0	10382.0	9414.8	10372.8	386.	91.	BR	279.	100.0	.0	24.0	1.01	19.6
18. WB APP	8718.0	10394.0	8769.0	10389.0	51.	96.	BR	1200.	6.2	.0	44.0		
19. WB APP	8769.0	10389.0	9181.0	10378.0	412.	92.	BR	1200.	6.2	.0	44.0		
20. WB APP	9181.0	10378.0	9403.0	10374.0	222.	91.	BR	1200.	6.2	.0	44.0		
21. NB DEP	8729.0	10379.0	8729.0	10414.0	35.	360.	AG	280.	6.2	.0	32.0		
22. NB DEP	8729.0	10414.0	8732.0	10590.0	176.	1.	AG	280.	6.2	.0	32.0		
23. NB DEP	8732.0	10590.0	8741.0	11221.0	631.	1.	AG	280.	6.2	.0	32.0		
24. NB RT Q	8742.0	10347.0	8500.1	9548.7	834.	197.	AG	162.	100.0	.0	12.0	1.15	42.4
25. NB RT Q	8732.0	10314.0	8710.8	9480.2	834.	181.	AG	162.	100.0	.0	12.0	1.15	42.4
26. NB APP LT Q	8724.0	10347.0	8721.0	10324.2	23.	188.	AG	171.	100.0	.0	12.0	.16	1.2
27. NB APP LT Q	8720.0	10317.0	8719.4	10294.0	23.	181.	AG	171.	100.0	.0	12.0	.16	1.2
28. NB APP	8724.0	10379.0	8720.0	10265.0	114.	182.	AG	510.	6.2	.0	32.0		
29. NB APP	8720.0	10265.0	8715.0	10157.0	108.	183.	AG	510.	6.2	.0	32.0		
30. NB APP	8715.0	10157.0	8712.0	10012.0	145.	181.	AG	510.	6.2	.0	32.0		
31. NB APP	8712.0	10012.0	8700.0	9539.0	473.	181.	AG	510.	6.2	.0	32.0		

JOB: Dravus and 20th- 2030 RUN: Dravus and 20th- 2030

DATE : 12/ 4/ 3
TIME : 10: 3:10

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. SB LT Q	100	70	4.0	220	1137	91.30	1	3
4. SB APP Q	100	61	4.0	60	1600	91.30	1	3
10. EB APP Q	100	53	4.0	400	1600	91.30	1	3
11. EB APP Q	100	53	4.0	400	1600	91.30	1	3
16. WB APP Q	100	57	4.0	1200	1600	91.30	1	3
17. WB APP Q	100	57	4.0	1200	1600	91.30	1	3
24. NB RT Q	100	66	4.0	450	1405	91.30	1	3
25. NB RT Q	100	66	4.0	450	1405	91.30	1	3
26. NB APP LT Q	100	70	4.0	60	1600	91.30	1	3
27. NB APP LT Q	100	70	4.0	60	1600	91.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	8768.0	9877.0	6.0
2. Receptor 2	8762.0	9952.0	6.0
3. Receptor 3	8763.0	10026.0	6.0
4. Receptor 4	8762.0	10101.0	6.0
5. Receptor 5	8767.0	10181.0	6.0
6. Receptor 6	8778.0	10250.0	6.0
7. Receptor 7	9263.0	10319.0	6.0
8. Receptor 8	9195.0	10327.0	6.0
9. Receptor 9	9114.0	10328.0	6.0
10. Receptor 10	9057.0	10327.0	6.0
11. Receptor 11	8983.0	10328.0	6.0
12. Receptor 12	8917.0	10333.0	6.0
13. Receptor 13	8832.0	10328.0	6.0
14. Receptor 14	8652.0	9882.0	6.0
15. Receptor 15	8656.0	9959.0	6.0
16. Receptor 16	8652.0	10032.0	6.0
17. Receptor 17	8667.0	10114.0	6.0
18. Receptor 18	8654.0	10179.0	6.0
19. Receptor 19	8663.0	10257.0	6.0
20. Receptor 20	8140.0	10348.0	6.0
21. Receptor 21	8209.0	10342.0	6.0
22. Receptor 22	8283.0	10339.0	6.0
23. Receptor 23	8369.0	10334.0	6.0
24. Receptor 24	8437.0	10337.0	6.0
25. Receptor 25	8515.0	10337.0	6.0
26. Receptor 26	8590.0	10333.0	6.0
27. Receptor 27	9341.0	10414.0	6.0
28. Receptor 28	9269.0	10411.0	6.0
29. Receptor 29	9186.0	10418.0	6.0
30. Receptor 30	9122.0	10419.0	6.0
31. Receptor 31	9043.0	10418.0	6.0
32. Receptor 32	8966.0	10420.0	6.0
33. Receptor 33	8893.0	10422.0	6.0
34. Receptor 34	8817.0	10425.0	6.0
35. Receptor 35	8772.0	10952.0	6.0

RECEPTOR	X (FT)	Y (FT)	Z (FT)
36. Receptor 36	8770.0	10879.0	6.0
37. Receptor 37	8767.0	10803.0	6.0
38. Receptor 38	8768.0	10728.0	6.0
39. Receptor 39	8768.0	10653.0	6.0
40. Receptor 40	8766.0	10577.0	6.0
41. Receptor 41	8771.0	10507.0	6.0
42. Receptor 42	8666.0	10954.0	6.0
43. Receptor 43	8662.0	10875.0	6.0
44. Receptor 44	8666.0	10801.0	6.0
45. Receptor 45	8658.0	10735.0	6.0
46. Receptor 46	8658.0	10647.0	6.0
47. Receptor 47	8657.0	10578.0	6.0
48. Receptor 48	8658.0	10501.0	6.0
49. Receptor 49	8217.0	10433.0	6.0
50. Receptor 50	8289.0	10434.0	6.0
51. Receptor 51	8365.0	10429.0	6.0
52. Receptor 52	8443.0	10438.0	6.0
53. Receptor 53	8511.0	10432.0	6.0
54. Receptor 54	8588.0	10429.0	6.0

JOB: Dravus and 20th- 2030 RUN: Dravus and 20th- 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.4	.4	.4	.3	.5	.5	.9	.9	1.4	1.4	.9	.9	.9	.6	.6	1.5	.8	.1	.3	.1
10.	.1	.2	.2	.3	.4	.5	.9	.9	1.4	1.4	.9	.9	.9	.7	.8	1.9	1.7	.3	.3	.1
20.	.1	.2	.3	.3	.4	.5	.9	.9	1.3	1.4	.9	.9	.9	.6	.8	1.7	2.2	.5	.3	.1
30.	.2	.2	.3	.3	.4	.5	.9	1.0	1.1	1.4	1.0	.9	.9	.6	.7	1.4	2.5	.8	.7	.2
40.	.2	.2	.4	.5	.5	.5	.9	1.0	1.1	1.5	1.3	1.0	.9	.7	.7	1.1	2.0	1.1	1.0	.2
50.	.1	.1	.3	.6	.6	.6	.9	1.0	1.0	1.5	1.5	1.1	1.0	.5	.5	.8	1.9	1.2	1.2	.2
60.	.0	.1	.1	.4	.6	.7	.9	1.1	1.1	1.5	1.6	1.4	1.2	.5	.5	.8	1.5	1.3	1.5	.2
70.	.0	.0	.0	.1	.4	.7	.5	1.0	1.1	1.3	1.7	1.6	1.2	.4	.4	.6	1.3	1.1	1.4	.2
80.	.0	.0	.0	.0	.1	.4	.2	.6	.9	.9	1.2	1.6	1.4	.4	.4	.4	1.0	.8	1.2	.4
90.	.0	.0	.0	.0	.0	.1	.0	.1	.4	.5	.5	.9	.8	.4	.4	.4	1.0	.7	.6	.4
100.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.1	.4	.4	.3	.9	.5	.7	.2
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	.9	.6	.7	.2
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.3	.9	.6	.6	.2
130.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	1.1	.7	.7	.2
140.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5	.5	1.1	.7	.8	.2
150.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5	.6	1.2	.9	.7	.1
160.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5	.6	1.5	.8	.9	.0
170.	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.4	.5	.7	1.7	.9	.8	.0
180.	.1	.2	.2	.3	.3	.2	.0	.0	.0	.0	.0	.0	.1	.2	.2	.7	1.9	.7	.7	.0
190.	.4	.5	.5	.7	.7	.6	.0	.0	.0	.0	.0	.1	.2	.0	.1	1.1	1.9	.5	.4	.0
200.	.5	.7	.8	.8	.9	.8	.0	.0	.0	.1	.1	.2	.6	.2	.4	1.6	1.6	.2	.2	.0
210.	.6	.7	.8	.8	.9	.9	.0	.1	.1	.1	.2	.3	.5	.3	.5	1.5	.9	.0	.0	.0
220.	.6	.8	.8	.9	.9	.7	.1	.1	.2	.2	.2	.4	.5	.4	.5	1.2	.4	.0	.0	.0
230.	.7	.7	.7	.7	.8	.7	.2	.2	.2	.2	.2	.3	.4	.3	.4	1.0	.2	.0	.0	.0
240.	.7	.7	.7	.7	.6	.8	.2	.2	.2	.2	.2	.3	.4	.3	.4	.8	.1	.0	.0	.0
250.	.6	.7	.6	.7	.6	.7	.2	.2	.2	.2	.2	.2	.5	.3	.4	.7	.1	.0	.0	.0
260.	.6	.7	.6	.7	.6	.7	.2	.2	.2	.2	.2	.2	.4	.3	.3	.6	.1	.0	.0	.0
270.	.6	.7	.7	.7	.6	.7	.5	.5	.5	.4	.4	.3	.5	.3	.3	.6	.0	.0	.0	.0
280.	.6	.7	.7	.7	.7	.6	1.2	1.2	1.0	.7	.7	.7	.6	.3	.3	.6	.0	.0	.0	.0
290.	.6	.6	.7	.7	.7	.7	1.4	1.9	1.3	1.3	1.1	1.0	.4	.3	.3	.6	.0	.0	.0	.0
300.	.6	.7	.7	.7	.8	1.0	1.3	1.7	1.4	1.1	1.3	1.2	.7	.3	.3	.6	.0	.0	.1	.0
310.	.6	.7	.7	.7	.8	1.0	1.1	1.4	1.6	1.0	1.0	1.1	.9	.3	.3	.6	.1	.0	.2	.0
320.	.6	.6	.8	.7	.8	.9	1.0	1.2	1.6	1.1	1.0	1.0	1.0	.3	.4	.7	.1	.1	.1	.0
330.	.8	.8	.8	.9	.8	.7	.9	1.0	1.5	1.1	.9	1.0	1.0	.3	.4	.7	.2	.1	.1	.1
340.	.7	.8	.8	.9	1.0	.5	.9	.9	1.4	1.3	.9	.9	.9	.3	.4	1.0	.3	.1	.2	.1
350.	.5	.6	.6	.6	.6	.6	.9	.9	1.4	1.4	.9	.9	.9	.4	.5	1.1	.4	.1	.2	.1
360.	.4	.4	.4	.3	.5	.5	.9	.9	1.4	1.4	.9	.9	.9	.6	.6	1.5	.8	.1	.3	.1
MAX	.8	.8	.8	.9	1.0	1.0	1.4	1.9	1.6	1.5	1.7	1.6	1.4	.7	.8	1.9	2.5	1.3	1.5	.4
DEGR.	330	220	210	220	340	300	290	290	320	60	70	70	80	40	20	10	30	60	60	80

JOB: Dravus and 20th- 2030 RUN: Dravus and 20th- 2030

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
	CONCENTRATION (PPM)																			
0.	.2	.2	.2	.2	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.	.2	.2	.2	.2	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20.	.2	.2	.2	.1	.8	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30.	.2	.2	.2	.1	.8	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40.	.2	.2	.2	.3	.7	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50.	.2	.2	.2	.4	.6	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60.	.2	.2	.3	.5	.5	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
70.	.2	.3	.6	.9	.7	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
80.	.5	.7	.8	1.0	1.1	1.1	.0	.0	.0	.1	.1	.1	.1	.2	.0	.0	.0	.0	.0	.0
90.	.4	.6	.7	.8	1.0	1.0	.0	.2	.3	.4	.5	.9	1.0	.8	.0	.0	.0	.0	.0	.0
100.	.3	.3	.3	.3	.4	.6	.1	.6	.7	1.0	1.3	1.7	1.7	1.6	.0	.0	.0	.0	.0	.1
110.	.2	.2	.2	.2	.2	.3	.3	.9	1.2	1.3	1.9	2.1	1.8	1.6	.0	.0	.0	.0	.1	.3
120.	.2	.2	.2	.2	.2	.3	.6	1.1	1.2	1.3	2.1	1.8	1.5	1.3	.0	.0	.1	.1	.3	.6
130.	.2	.2	.2	.2	.2	.4	.8	1.2	1.2	1.3	1.9	1.5	1.3	1.3	.1	.1	.1	.3	.6	.6
140.	.2	.2	.2	.2	.2	.4	.9	1.0	1.1	1.2	1.8	1.2	1.1	1.0	.1	.2	.2	.4	.5	.5
150.	.1	.2	.2	.2	.2	.4	.8	1.0	1.0	1.2	1.8	1.1	1.1	1.0	.2	.2	.3	.3	.3	.4
160.	.0	.1	.2	.2	.2	.5	.8	1.0	.9	1.2	1.7	1.0	1.0	1.0	.1	.1	.2	.3	.3	.5
170.	.0	.0	.1	.1	.2	.4	.8	1.0	.9	1.4	1.5	1.0	1.0	.9	.1	.1	.1	.3	.4	.5
180.	.0	.0	.0	.0	.1	.3	.8	1.1	.9	1.5	1.5	.9	.9	1.0	.3	.3	.3	.4	.4	.6
190.	.0	.0	.0	.0	.0	.1	.8	1.1	.9	1.5	1.4	1.0	1.2	1.3	.3	.3	.3	.4	.6	.7
200.	.0	.0	.0	.0	.0	.0	.9	1.1	.9	1.5	1.4	1.1	1.3	1.6	.1	.2	.2	.3	.3	.7
210.	.0	.0	.0	.0	.0	.0	.9	1.1	1.1	1.7	1.5	1.3	1.4	1.6	.1	.1	.1	.1	.2	.4
220.	.0	.0	.0	.0	.0	.0	1.1	1.2	1.5	1.9	1.4	1.4	1.4	1.5	.1	.1	.1	.1	.1	.3
230.	.0	.0	.0	.0	.0	.0	1.3	1.4	1.6	2.0	1.4	1.4	1.5	1.3	.1	.1	.1	.1	.0	.3
240.	.0	.0	.0	.0	.0	.0	1.5	1.7	2.1	2.1	1.6	1.5	1.4	.9	.0	.0	.1	.0	.0	.0
250.	.0	.0	.0	.0	.0	.0	1.8	2.0	2.2	2.0	1.6	1.4	1.2	1.0	.0	.0	.0	.0	.0	.0
260.	.0	.0	.0	.0	.0	.0	1.8	1.9	1.7	1.5	1.4	1.1	1.0	.6	.0	.0	.0	.0	.0	.0
270.	.0	.0	.0	.0	.0	.0	1.1	1.2	1.0	.7	.5	.6	.5	.3	.0	.0	.0	.0	.0	.0
280.	.0	.0	.1	.2	.2	.3	.2	.4	.1	.1	.2	.2	.1	.2	.0	.0	.0	.0	.0	.0
290.	.0	.1	.2	.2	.2	.5	.0	.0	.0	.0	.0	.1	.1	.2	.0	.0	.0	.0	.0	.0
300.	.1	.2	.2	.2	.2	.7	.0	.0	.0	.0	.0	.0	.1	.2	.0	.0	.0	.0	.0	.0
310.	.1	.2	.2	.2	.2	.5	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.0	.0
320.	.2	.2	.2	.2	.3	.5	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
330.	.2	.2	.2	.2	.4	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
340.	.2	.2	.2	.2	.6	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
350.	.2	.2	.2	.2	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1
360.	.2	.2	.2	.2	.7	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX	.5	.7	.8	1.0	1.1	1.1	1.8	2.0	2.2	2.1	2.1	2.1	1.8	1.6	.3	.3	.3	.4	.6	.7
DEGR.	80	80	80	80	80	80	260	250	250	240	120	110	110	110	180	180	150	140	130	200

JOB: Dravus and 20th- 2030 RUN: Dravus and 20th- 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54
	CONCENTRATION (PPM)													
0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.	.0	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
20.	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
30.	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
40.	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
50.	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60.	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
70.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.1	.1
80.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.2	.2	.2	.4
90.	.1	.0	.0	.0	.0	.0	.0	.3	.3	.4	.4	.5	.8	1.0
100.	.3	.0	.0	.0	.0	.0	.1	.8	.4	.6	.8	.8	1.0	1.3
110.	.8	.0	.0	.0	.1	.1	.5	1.0	.4	.4	.8	.6	.8	.8
120.	.8	.0	.1	.1	.3	.6	.6	1.1	.4	.4	.4	.8	.6	.7
130.	.6	.2	.1	.3	.2	.5	.5	.9	.4	.4	.4	.7	.6	.8
140.	.6	.3	.3	.3	.4	.3	.7	.7	.4	.4	.4	.6	.6	.9
150.	.6	.3	.2	.4	.3	.3	.5	.8	.4	.4	.4	.4	.8	.7
160.	.5	.2	.2	.1	.2	.4	.5	.7	.3	.3	.4	.3	.8	.7
170.	.6	.4	.3	.4	.4	.4	.6	.7	.2	.2	.3	.2	.8	.6
180.	.8	.2	.2	.2	.4	.5	.5	.6	.2	.2	.2	.1	.7	.5
190.	1.0	.1	.1	.1	.1	.2	.2	.4	.2	.2	.2	.1	.5	.3
200.	.8	.0	.0	.0	.1	.1	.1	.1	.2	.2	.2	.2	.4	.3
210.	.3	.0	.0	.0	.0	.1	.1	.1	.2	.2	.2	.2	.2	.4
220.	.5	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2	.1	.6
230.	.4	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.1	.6
240.	.4	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.6
250.	.4	.0	.0	.0	.0	.0	.0	.1	.0	.2	.2	.2	.2	.2
260.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.2	.2
270.	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1
280.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
290.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
300.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
310.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
320.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
330.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
340.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
360.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX	1.0	.4	.3	.4	.4	.6	.7	1.1	.4	.6	.8	.8	1.0	1.3
DEGR.	190	170	140	150	140	120	140	120	100	100	100	100	100	100

THE HIGHEST CONCENTRATION OF 2.50 PPM OCCURRED AT RECEPTOR REC17.

JOB: Galyer Flyover and Alaska ALT H- 2003 Ex RUN: Gayler Flyover and Alaska Way- 2003 EXIS

DATE : 12/10/ 3
TIME : 12:48: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SEDEP	9665.0	4479.0	9714.0	4415.0	81.	143.	AG	221.	15.0	.0	40.0		
2. SEDEP	9714.0	4415.0	9870.0	4231.0	241.	140.	AG	221.	15.0	.0	40.0		
3. SEDEP	9870.0	4231.0	9929.0	4165.0	89.	138.	AG	221.	15.0	.0	40.0		
4. SEQ	9610.0	4548.0	9602.4	4557.4	12.	321.	AG	249.	100.0	.0	12.0	.11	.6
5. SEAPP	9664.0	4480.0	9603.0	4558.0	99.	322.	AG	111.	15.0	.0	32.0		
6. SEAPP	9603.0	4558.0	9520.0	4657.0	129.	320.	AG	111.	15.0	.0	32.0		
7. SEAPP	9520.0	4657.0	9420.0	4776.0	155.	320.	AG	111.	15.0	.0	32.0		
8. NW DEP	9679.0	4489.0	9623.0	4557.0	88.	321.	AG	110.	15.0	.0	32.0		
9. NW DEP	9623.0	4557.0	9531.0	4667.0	143.	320.	AG	110.	15.0	.0	32.0		
10. NW DEP	9531.0	4667.0	9431.0	4785.0	155.	320.	AG	110.	15.0	.0	32.0		
11. NWQ	9741.0	4412.0	9760.3	4389.6	30.	139.	AG	249.	100.0	.0	12.0	.27	1.5
12. NWAPP	9680.0	4488.0	9731.0	4424.0	82.	141.	AG	221.	15.0	.0	32.0		
13. NWAPP	9731.0	4424.0	9775.0	4373.0	67.	139.	AG	221.	15.0	.0	32.0		
14. NWAPP	9775.0	4373.0	9931.0	4189.0	241.	140.	AG	221.	15.0	.0	32.0		
15. NEQ	9662.0	4444.0	9631.6	4424.5	36.	237.	BR	249.	100.0	.0	24.0	.33	1.8
16. NEQ	9637.0	4428.0	9617.0	4398.0	36.	214.	BR	249.	100.0	.0	24.0	.33	1.8
17. NEQ	9621.0	4404.0	9612.7	4368.9	36.	193.	BR	249.	100.0	10.0	24.0	.33	1.8
18. NEQ	9613.0	4370.0	9617.1	4334.1	36.	173.	BR	249.	100.0	20.0	24.0	.33	1.8
19. NEQ	9616.0	4344.0	9628.7	4310.2	36.	159.	BR	249.	100.0	20.0	24.0	.33	1.8
20. NEQ	9628.0	4312.0	9646.7	4281.1	36.	149.	BR	249.	100.0	30.0	24.0	.33	1.8
21. NE APP	9689.0	4461.0	9647.0	4435.0	49.	238.	BR	330.	18.5	.0	36.0		
22. NE APP	9647.0	4435.0	9621.0	4406.0	39.	222.	BR	330.	18.5	.0	36.0		
23. NE APP	9621.0	4406.0	9612.0	4371.0	36.	194.	BR	330.	18.5	10.0	36.0		
24. NE APP	9612.0	4371.0	9619.0	4333.0	39.	170.	BR	330.	18.5	20.0	36.0		
25. NE APP	9619.0	4333.0	9637.0	4295.0	42.	155.	BR	330.	18.5	20.0	36.0		
26. NE APP	9637.0	4295.0	9665.0	4264.0	42.	138.	BR	330.	18.5	30.0	36.0		
27. NE APP	9665.0	4264.0	9706.0	4235.0	50.	125.	BR	330.	18.5	30.0	36.0		
28. NE APP	9706.0	4235.0	9756.0	4221.0	52.	106.	BR	330.	18.5	30.0	36.0		
29. NE APP	9756.0	4221.0	9808.0	4216.0	52.	95.	BR	330.	18.5	30.0	36.0		
30. NE APP	9808.0	4216.0	9862.0	4222.0	54.	84.	BR	330.	18.5	30.0	36.0		
31. SW DEP	9640.0	4523.0	9603.0	4429.0	101.	201.	BR	380.	15.0	.0	32.0		
32. SW DEP	9603.0	4429.0	9590.0	4389.0	42.	198.	BR	380.	15.0	.0	32.0		
33. SW DEP	9590.0	4389.0	9594.0	4331.0	58.	176.	BR	380.	15.0	10.0	32.0		
34. SW DEP	9594.0	4331.0	9613.0	4285.0	50.	158.	BR	380.	15.0	20.0	32.0		
35. SW DEP	9613.0	4285.0	9637.0	4255.0	38.	141.	BR	380.	15.0	20.0	32.0		
36. SW DEP	9637.0	4255.0	9674.0	4229.0	45.	125.	BR	380.	15.0	30.0	32.0		
37. SW DEP	9674.0	4229.0	9713.0	4214.0	42.	111.	BR	380.	15.0	30.0	32.0		
38. SW DEP	9713.0	4214.0	9749.0	4205.0	37.	104.	BR	380.	15.0	30.0	32.0		
39. SW DEP	9749.0	4205.0	9816.0	4199.0	67.	95.	BR	380.	15.0	30.0	32.0		
40. SW DEP	9816.0	4199.0	9875.0	4206.0	59.	83.	BR	380.	15.0	30.0	32.0		

JOB: Galyer Flyover and Alaska ALT H- 2003 Ex RUN: Gayler Flyover and Alaska Way- 2003 EXIS

DATE : 12/10/ 3
TIME : 12:48: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. SEQ	70	20	4.0	111	1600	325.00	1	3
11. NWQ	70	20	4.0	270	1600	325.00	1	3
15. NEQ	70	20	4.0	330	1600	325.00	1	3
16. NEQ	70	20	4.0	330	1600	325.00	1	3
17. NEQ	70	20	4.0	330	1600	325.00	1	3
18. NEQ	70	20	4.0	330	1600	325.00	1	3
19. NEQ	70	20	4.0	330	1600	325.00	1	3
20. NEQ	70	20	4.0	330	1600	325.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	9362.0	4804.0	6.0
2. Receptor 2	9420.0	4841.0	6.0
3. Receptor 3	9452.0	4801.0	6.0
4. Receptor 4	9483.0	4762.0	6.0
5. Receptor 5	9516.0	4724.0	6.0
6. Receptor 6	9549.0	4685.0	6.0
7. Receptor 7	9581.0	4647.0	6.0
8. Receptor 8	9613.0	4607.0	6.0
9. Receptor 9	9645.0	4568.0	6.0
10. Receptor 10	9396.0	4767.0	6.0
11. Receptor 11	9428.0	4727.0	6.0
12. Receptor 12	9461.0	4689.0	6.0
13. Receptor 13	9493.0	4649.0	6.0
14. Receptor 14	9526.0	4612.0	6.0
15. Receptor 15	9557.0	4572.0	6.0
16. Receptor 16	9952.0	4206.0	6.0
17. Receptor 17	9921.0	4245.0	6.0
18. Receptor 18	9887.0	4282.0	6.0
19. Receptor 19	9855.0	4319.0	6.0
20. Receptor 20	9823.0	4358.0	6.0
21. Receptor 21	9791.0	4396.0	6.0
22. Receptor 22	9898.0	4159.0	6.0
23. Receptor 23	9868.0	4196.0	6.0
24. Receptor 24	9834.0	4235.0	6.0
25. Receptor 25	9800.0	4273.0	6.0
26. Receptor 26	9765.0	4312.0	6.0
27. Receptor 27	9732.0	4350.0	6.0
28. Receptor 28	9710.0	4375.0	6.0
29. Receptor 29	9698.0	4514.0	6.0
30. Receptor 30	9743.0	4452.0	6.0

JOB: Galyer Flyover and Alaska ALT H- 2003 Ex RUN: Gayler Flyover and Alaska Way- 2003 EXIS

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0
10. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
20. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
30. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	.0
60. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
70. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
80. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0
90. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0
100. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
110. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0
120. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.2	.1	.0	.0	.0	.0	.0
130. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.1	.2	.0	.0	.0	.0	.0
140. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.0	.0	.0	.1	.1
150. *	.0	.0	.1	.0	.0	.1	.0	.0	.3	.0	.0	.0	.1	.3	.3	.0	.0	.1	.1	.1
160. *	.0	.0	.1	.1	.0	.2	.4	.2	.1	.0	.0	.0	.0	.2	.5	.0	.0	.2	.2	.2
170. *	.0	.0	.1	.1	.0	.1	.6	.5	.4	.0	.0	.0	.0	.0	.3	.0	.1	.2	.2	.2
180. *	.0	.0	.1	.1	.1	.1	.1	.7	.7	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2
190. *	.0	.0	.1	.1	.1	.1	.1	.2	.8	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2
200. *	.0	.0	.1	.1	.1	.0	.1	.2	.5	.0	.0	.0	.0	.0	.0	.0	.2	.1	.2	.2
210. *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2
220. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2
230. *	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2
240. *	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.2	.2	.2	.2	.2
250. *	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.2	.1	.2	.2	.3
260. *	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.2	.2	.2	.3	.5
270. *	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	.5
280. *	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.2	.2	.3	.4	.5
290. *	.0	.0	.0	.0	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.2	.2	.2	.4	.6
300. *	.0	.0	.0	.0	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.3	.2	.2	.4	.5
310. *	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.2	.2	.3	.2	.2
320. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.1
330. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0
340. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0
350. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0
360. *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0
MAX *	.0	.0	.1	.1	.1	.2	.6	.7	.8	.2	.1	.1	.1	.3	.5	.3	.2	.3	.4	.6
DEGR. *	0	0	150	160	180	160	170	180	190	110	10	0	0	150	160	300	180	280	270	290

JOB: Galyer Flyover and Alaska ALT H- 2003 Ex RUN: Gayler Flyover and Alaska Way- 2003 EXIS

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30
0.	.0	.2	.3	.2	.2	.3	.2	.3	.0	.0
10.	.0	.2	.2	.2	.2	.2	.4	.2	.0	.0
20.	.0	.2	.2	.2	.2	.2	.5	.1	.0	.0
30.	.0	.2	.2	.2	.2	.2	.4	.3	.0	.0
40.	.0	.2	.2	.2	.2	.2	.3	.4	.0	.0
50.	.0	.1	.2	.2	.2	.2	.3	.5	.0	.0
60.	.0	.1	.2	.2	.2	.2	.1	.5	.0	.0
70.	.0	.1	.2	.2	.2	.2	.2	.4	.0	.0
80.	.0	.1	.2	.2	.2	.2	.2	.3	.0	.0
90.	.0	.0	.2	.2	.2	.2	.2	.1	.0	.0
100.	.0	.0	.1	.3	.2	.2	.2	.2	.0	.0
110.	.0	.0	.1	.3	.2	.2	.2	.2	.0	.0
120.	.0	.0	.1	.1	.3	.2	.3	.3	.0	.0
130.	.0	.0	.1	.1	.2	.1	.2	.2	.0	.0
140.	.1	.0	.0	.0	.0	.0	.1	.1	.0	.1
150.	.2	.0	.0	.0	.0	.0	.0	.0	.3	.4
160.	.2	.0	.0	.0	.0	.0	.0	.0	.3	.6
170.	.2	.0	.0	.0	.0	.0	.0	.0	.3	.5
180.	.2	.0	.0	.0	.0	.0	.0	.0	.2	.5
190.	.2	.0	.0	.0	.0	.0	.0	.0	.5	.4
200.	.2	.0	.0	.0	.0	.0	.0	.0	.9	.3
210.	.2	.0	.0	.0	.0	.0	.0	.1	1.0	.3
220.	.2	.0	.0	.0	.0	.0	.0	.1	.6	.4
230.	.3	.0	.0	.0	.0	.0	.1	.2	.3	.5
240.	.5	.0	.0	.0	.0	.0	.2	.4	.1	.6
250.	.6	.0	.0	.0	.0	.1	.2	.2	.1	.8
260.	.7	.0	.0	.0	.0	.1	.2	.5	.1	.6
270.	.9	.0	.1	.0	.1	.2	.3	.3	.2	.7
280.	.9	.0	.1	.1	.2	.2	.2	.4	.2	.5
290.	.7	.0	.0	.2	.2	.3	.3	.5	.1	.3
300.	.5	.0	.0	.2	.3	.2	.4	.6	.1	.1
310.	.1	.0	.0	.1	.3	.3	.3	.5	.0	.0
320.	.0	.1	.1	.2	.2	.2	.4	.4	.0	.0
330.	.0	.3	.2	.3	.2	.1	.3	.4	.0	.0
340.	.0	.3	.2	.4	.3	.2	.3	.2	.0	.0
350.	.0	.2	.2	.2	.3	.4	.2	.2	.0	.0
360.	.0	.2	.3	.2	.2	.3	.2	.3	.0	.0
MAX	.9	.3	.3	.4	.3	.4	.5	.6	1.0	.8
DEGR.	270	330	0	340	120	350	20	300	210	250

THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC29.

JOB: Galyer and Alaska- NA ALTA&D- 2010 RUN: Gayler and Alaska- NA ALT A&D- 2010

DATE : 12/11/ 3
TIME : 8:49:42

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SEDEP	9665.0	4479.0	9714.0	4415.0	81.	143.	AG	130.	8.0	.0	40.0		
2. SEDEP	9714.0	4415.0	9870.0	4231.0	241.	140.	AG	130.	8.0	.0	40.0		
3. SEDEP	9870.0	4231.0	9929.0	4165.0	89.	138.	AG	130.	8.0	.0	40.0		
4. SEQ	9610.0	4548.0	9594.9	4566.7	24.	321.	AG	238.	100.0	.0	12.0	.26	1.2
5. SEAPP	9664.0	4480.0	9603.0	4558.0	99.	322.	AG	110.	8.0	.0	32.0		
6. SEAPP	9603.0	4558.0	9520.0	4657.0	129.	320.	AG	110.	8.0	.0	32.0		
7. SEAPP	9520.0	4657.0	9420.0	4776.0	155.	320.	AG	110.	8.0	.0	32.0		
8. NW DEP	9679.0	4489.0	9623.0	4557.0	88.	321.	AG	100.	8.0	.0	32.0		
9. NW DEP	9623.0	4557.0	9531.0	4667.0	143.	320.	AG	100.	8.0	.0	32.0		
10. NW DEP	9531.0	4667.0	9431.0	4785.0	155.	320.	AG	100.	8.0	.0	32.0		
11. NWQ	9741.0	4412.0	10008.4	4101.1	410.	139.	AG	249.	100.0	.0	12.0	1.04	20.8
12. NWAPP	9680.0	4488.0	9731.0	4424.0	82.	141.	AG	520.	8.0	.0	32.0		
13. NWAPP	9731.0	4424.0	9775.0	4373.0	67.	139.	AG	520.	8.0	.0	32.0		
14. NWAPP	9775.0	4373.0	9931.0	4189.0	241.	140.	AG	520.	8.0	.0	32.0		
15. NEQ	9662.0	4444.0	9640.7	4430.4	25.	237.	BR	131.	100.0	.0	24.0	.26	1.3
16. NEQ	9637.0	4428.0	9623.0	4407.0	25.	214.	BR	131.	100.0	.0	24.0	.26	1.3
17. NEQ	9621.0	4404.0	9615.2	4379.4	25.	193.	BR	131.	100.0	10.0	24.0	.26	1.3
18. NEQ	9613.0	4370.0	9615.9	4344.9	25.	173.	BR	131.	100.0	20.0	24.0	.26	1.3
19. NEQ	9616.0	4344.0	9624.9	4320.3	25.	159.	BR	131.	100.0	20.0	24.0	.26	1.3
20. NEQ	9628.0	4312.0	9641.1	4290.4	25.	149.	BR	131.	100.0	30.0	24.0	.26	1.3
21. NE APP	9689.0	4461.0	9647.0	4435.0	49.	238.	BR	210.	9.8	.0	36.0		
22. NE APP	9647.0	4435.0	9621.0	4406.0	39.	222.	BR	210.	9.8	.0	36.0		
23. NE APP	9621.0	4406.0	9612.0	4371.0	36.	194.	BR	210.	9.8	10.0	36.0		
24. NE APP	9612.0	4371.0	9619.0	4333.0	39.	170.	BR	210.	9.8	20.0	36.0		
25. NE APP	9619.0	4333.0	9637.0	4295.0	42.	155.	BR	210.	9.8	20.0	36.0		
26. NE APP	9637.0	4295.0	9665.0	4264.0	42.	138.	BR	210.	9.8	30.0	36.0		
27. NE APP	9665.0	4264.0	9706.0	4235.0	50.	125.	BR	210.	9.8	30.0	36.0		
28. NE APP	9706.0	4235.0	9756.0	4221.0	52.	106.	BR	210.	9.8	30.0	36.0		
29. NE APP	9756.0	4221.0	9808.0	4216.0	52.	95.	BR	210.	9.8	30.0	36.0		
30. NE APP	9808.0	4216.0	9862.0	4222.0	54.	84.	BR	210.	9.8	30.0	36.0		
31. SW DEP	9640.0	4523.0	9603.0	4429.0	101.	201.	BR	610.	8.0	.0	32.0		
32. SW DEP	9603.0	4429.0	9590.0	4389.0	42.	198.	BR	610.	8.0	.0	32.0		
33. SW DEP	9590.0	4389.0	9594.0	4331.0	58.	176.	BR	610.	8.0	10.0	32.0		
34. SW DEP	9594.0	4331.0	9613.0	4285.0	50.	158.	BR	610.	8.0	20.0	32.0		
35. SW DEP	9613.0	4285.0	9637.0	4255.0	38.	141.	BR	610.	8.0	20.0	32.0		
36. SW DEP	9637.0	4255.0	9674.0	4229.0	45.	125.	BR	610.	8.0	30.0	32.0		
37. SW DEP	9674.0	4229.0	9713.0	4214.0	42.	111.	BR	610.	8.0	30.0	32.0		
38. SW DEP	9713.0	4214.0	9749.0	4205.0	37.	104.	BR	610.	8.0	30.0	32.0		
39. SW DEP	9749.0	4205.0	9816.0	4199.0	67.	95.	BR	610.	8.0	30.0	32.0		
40. SW DEP	9816.0	4199.0	9875.0	4206.0	59.	83.	BR	610.	8.0	30.0	32.0		

JOB: Galyer and Alaska- NA ALTA&D- 2010 RUN: Gayler and Alaska- NA ALT A&D- 2010

DATE : 12/11/ 3
TIME : 8:49:42

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. SEQ	70	40	4.0	110	1228	155.00	1	3
11. NWQ	70	42	4.0	520	1600	155.00	1	3
15. NEQ	70	22	4.0	210	1327	155.00	1	3
16. NEQ	70	22	4.0	210	1327	155.00	1	3
17. NEQ	70	22	4.0	210	1327	155.00	1	3
18. NEQ	70	22	4.0	210	1327	155.00	1	3
19. NEQ	70	22	4.0	210	1327	155.00	1	3
20. NEQ	70	22	4.0	210	1327	155.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	9362.0	4804.0	6.0
2. Receptor 2	9420.0	4841.0	6.0
3. Receptor 3	9452.0	4801.0	6.0
4. Receptor 4	9483.0	4762.0	6.0
5. Receptor 5	9516.0	4724.0	6.0
6. Receptor 6	9549.0	4685.0	6.0
7. Receptor 7	9581.0	4647.0	6.0
8. Receptor 8	9613.0	4607.0	6.0
9. Receptor 9	9645.0	4568.0	6.0
10. Receptor 10	9396.0	4767.0	6.0
11. Receptor 11	9428.0	4727.0	6.0
12. Receptor 12	9461.0	4689.0	6.0
13. Receptor 13	9493.0	4649.0	6.0
14. Receptor 14	9526.0	4612.0	6.0
15. Receptor 15	9557.0	4572.0	6.0
16. Receptor 16	9952.0	4206.0	6.0
17. Receptor 17	9921.0	4245.0	6.0
18. Receptor 18	9887.0	4282.0	6.0
19. Receptor 19	9855.0	4319.0	6.0
20. Receptor 20	9823.0	4358.0	6.0
21. Receptor 21	9791.0	4396.0	6.0
22. Receptor 22	9898.0	4159.0	6.0
23. Receptor 23	9868.0	4196.0	6.0
24. Receptor 24	9834.0	4235.0	6.0
25. Receptor 25	9800.0	4273.0	6.0
26. Receptor 26	9765.0	4312.0	6.0
27. Receptor 27	9732.0	4350.0	6.0
28. Receptor 28	9710.0	4375.0	6.0
29. Receptor 29	9698.0	4514.0	6.0
30. Receptor 30	9743.0	4452.0	6.0

JOB: Galyer and Alaska- NA ALTA&D- 2010 RUN: Gayler and Alaska- NA ALT A&D- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
70.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
80.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
90.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
100.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0
110.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	.0	.0	.0	.0	.0
120.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.3	.0	.0	.0	.0	.0
130.	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.3	.3	.5	.0	.1	.1	.1	.1
140.	.1	.1	.1	.2	.2	.2	.2	.3	.3	.1	.2	.2	.2	.3	.3	.2	.3	.4	.5	.6
150.	.0	.1	.1	.1	.1	.3	.3	.3	.4	.0	.1	.1	.1	.1	.2	.4	.5	.8	.9	.9
160.	.0	.0	.0	.0	.0	.1	.2	.1	.2	.0	.0	.0	.0	.0	.0	.7	.8	.9	1.0	1.0
170.	.0	.0	.0	.0	.0	.0	.2	.2	.0	.0	.0	.0	.0	.0	.0	.7	.8	.9	1.0	.9
180.	.0	.0	.0	.0	.0	.0	.1	.3	.2	.0	.0	.0	.0	.0	.0	.7	.7	.8	.9	.9
190.	.0	.0	.0	.0	.0	.0	.0	.3	.1	.0	.0	.0	.0	.0	.0	.6	.7	.7	.7	.7
200.	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0	.0	.6	.7	.7	.7	.7
210.	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.5	.6	.6	.6	.6
220.	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.6	.6	.7	.7	.6
230.	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.6	.6	.6	.6	.6
240.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.7	.6	.7	.7	.6
250.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0	.7	.6	.7	.7	.6
260.	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0	.7	.7	.7	.7	.7
270.	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.7	.7	.7	.7	.7
280.	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.9	.8	.9	.8	.7
290.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.9	1.0	.9	.8
300.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.0	1.0	.8	.7
310.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.8	.7	.7	.4
320.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.4	.4	.2	.1
330.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0
340.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
350.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
360.	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX	.1	.1	.1	.2	.2	.3	.3	.3	.4	.1	.2	.2	.3	.3	.5	1.1	1.0	1.0	1.0	1.0
DEGR.	130	130	130	140	140	150	150	140	150	130	140	130	130	130	130	300	300	290	160	160

JOB: Galyer and Alaska- NA ALTA&D- 2010 RUN: Gayler and Alaska- NA ALT A&D- 2010

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30
0.	.0	.6	.6	.6	.6	.5	.3	.1	.0	.0
10.	.0	.6	.6	.6	.5	.5	.4	.1	.0	.0
20.	.0	.5	.5	.5	.5	.5	.5	.1	.0	.0
30.	.0	.5	.5	.5	.5	.5	.5	.2	.0	.0
40.	.0	.5	.5	.5	.5	.5	.5	.3	.0	.0
50.	.0	.4	.5	.5	.5	.5	.5	.4	.0	.0
60.	.0	.4	.5	.5	.5	.5	.5	.5	.0	.0
70.	.0	.4	.5	.5	.5	.5	.5	.5	.0	.0
80.	.0	.4	.5	.5	.5	.5	.5	.5	.0	.0
90.	.0	.5	.6	.6	.6	.6	.6	.6	.0	.0
100.	.0	.5	.5	.6	.6	.6	.6	.6	.0	.0
110.	.0	.4	.5	.6	.6	.6	.7	.7	.0	.0
120.	.0	.3	.4	.6	.6	.7	.7	.7	.0	.0
130.	.1	.1	.2	.3	.4	.5	.6	.6	.1	.2
140.	.6	.0	.1	.1	.1	.2	.2	.2	.5	.6
150.	1.0	.0	.0	.0	.0	.0	.0	.0	.7	1.0
160.	1.0	.0	.0	.0	.0	.0	.0	.0	.4	1.0
170.	.9	.0	.0	.0	.0	.0	.0	.0	.2	.7
180.	.8	.0	.0	.0	.0	.0	.0	.0	.1	.5
190.	.7	.0	.0	.0	.0	.0	.0	.0	.1	.3
200.	.7	.0	.0	.0	.0	.0	.0	.0	.2	.3
210.	.6	.0	.0	.0	.0	.0	.0	.0	.3	.1
220.	.6	.0	.0	.0	.0	.0	.0	.0	.2	.1
230.	.6	.0	.0	.0	.0	.0	.0	.0	.1	.1
240.	.6	.0	.0	.0	.0	.0	.0	.1	.1	.1
250.	.6	.0	.0	.0	.0	.0	.0	.1	.1	.3
260.	.6	.0	.0	.0	.0	.0	.1	.1	.1	.3
270.	.7	.0	.0	.0	.0	.0	.1	.1	.1	.3
280.	.6	.0	.0	.0	.0	.0	.0	.1	.1	.2
290.	.5	.0	.0	.0	.0	.0	.1	.2	.1	.2
300.	.3	.0	.0	.0	.0	.0	.1	.1	.1	.1
310.	.1	.0	.0	.0	.0	.0	.2	.3	.0	.2
320.	.0	.2	.2	.1	.0	.0	.1	.2	.0	.0
330.	.0	.5	.5	.4	.2	.0	.0	.1	.0	.0
340.	.0	.7	.6	.7	.4	.3	.1	.0	.0	.0
350.	.0	.6	.7	.6	.6	.4	.1	.1	.0	.0
360.	.0	.6	.6	.6	.6	.5	.3	.1	.0	.0
MAX	1.0	.7	.7	.7	.6	.7	.7	.7	.7	1.0
DEGR.	150	340	350	340	0	120	110	110	150	150

CONCENTRATION (PPM)

THE HIGHEST CONCENTRATION OF 1.10 PPM OCCURRED AT RECEPTOR REC16.

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Galyer and Alaska- NA ALT A&D 2030 RUN: Gayler and Alaska- NA ALT A&D 2030

DATE : 12/12/ 3
TIME : 11:21:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. SEDEP	9665.0	4479.0	9714.0	4415.0	81.	143.	AG	130.	4.9	.0	40.0		
2. SEDEP	9714.0	4415.0	9870.0	4231.0	241.	140.	AG	130.	4.9	.0	40.0		
3. SEDEP	9870.0	4231.0	9929.0	4165.0	89.	138.	AG	130.	4.9	.0	40.0		
4. SEQ	9610.0	4548.0	7353.6	7341.7	3591.	321.	AG	140.	100.0	.0	12.0	1.79	182.4
5. SEAPP	9664.0	4480.0	9603.0	4558.0	99.	322.	AG	120.	4.9	.0	32.0		
6. SEAPP	9603.0	4558.0	9520.0	4657.0	129.	320.	AG	120.	4.9	.0	32.0		
7. SEAPP	9520.0	4657.0	9420.0	4776.0	155.	320.	AG	120.	4.9	.0	32.0		
8. NW DEP	9679.0	4489.0	9623.0	4557.0	88.	321.	AG	100.	4.9	.0	32.0		
9. NW DEP	9623.0	4557.0	9531.0	4667.0	143.	320.	AG	100.	4.9	.0	32.0		
10. NW DEP	9531.0	4667.0	9431.0	4785.0	155.	320.	AG	100.	4.9	.0	32.0		
11. NWQ	9741.0	4412.0	10643.8	3362.3	1385.	139.	AG	140.	100.0	.0	12.0	1.20	70.3
12. NWAPP	9680.0	4488.0	9731.0	4424.0	82.	141.	AG	660.	4.9	.0	32.0		
13. NWAPP	9731.0	4424.0	9775.0	4373.0	67.	139.	AG	660.	4.9	.0	32.0		
14. NWAPP	9775.0	4373.0	9931.0	4189.0	241.	140.	AG	600.	4.9	.0	32.0		
15. NEQ	9662.0	4444.0	9599.3	4403.9	74.	237.	BR	42.	100.0	.0	24.0	.85	3.8
16. NEQ	9637.0	4428.0	9595.7	4366.0	74.	214.	BR	42.	100.0	.0	24.0	.85	3.8
17. NEQ	9621.0	4404.0	9603.9	4331.5	74.	193.	BR	42.	100.0	10.0	24.0	.85	3.8
18. NEQ	9613.0	4370.0	9621.5	4296.0	74.	173.	BR	42.	100.0	20.0	24.0	.85	3.8
19. NEQ	9616.0	4344.0	9642.1	4274.3	74.	159.	BR	42.	100.0	20.0	24.0	.85	3.8
20. NEQ	9628.0	4312.0	9666.6	4248.3	74.	149.	BR	42.	100.0	30.0	24.0	.85	3.8
21. NE APP	9689.0	4461.0	9647.0	4435.0	49.	238.	BR	210.	6.2	.0	36.0		
22. NE APP	9647.0	4435.0	9621.0	4406.0	39.	222.	BR	210.	6.2	.0	36.0		
23. NE APP	9621.0	4406.0	9612.0	4371.0	36.	194.	BR	210.	6.2	10.0	36.0		
24. NE APP	9612.0	4371.0	9619.0	4333.0	39.	170.	BR	210.	6.2	20.0	36.0		
25. NE APP	9619.0	4333.0	9637.0	4295.0	42.	155.	BR	210.	6.2	20.0	36.0		
26. NE APP	9637.0	4295.0	9665.0	4264.0	42.	138.	BR	210.	6.2	30.0	36.0		
27. NE APP	9665.0	4264.0	9706.0	4235.0	50.	125.	BR	210.	6.2	30.0	36.0		
28. NE APP	9706.0	4235.0	9756.0	4221.0	52.	106.	BR	210.	6.2	30.0	36.0		
29. NE APP	9756.0	4221.0	9808.0	4216.0	52.	95.	BR	210.	6.2	30.0	36.0		
30. NE APP	9808.0	4216.0	9862.0	4222.0	54.	84.	BR	210.	6.2	30.0	36.0		
31. SW DEP	9640.0	4523.0	9603.0	4429.0	101.	201.	BR	760.	4.9	.0	32.0		
32. SW DEP	9603.0	4429.0	9590.0	4389.0	42.	198.	BR	760.	4.9	.0	32.0		
33. SW DEP	9590.0	4389.0	9594.0	4331.0	58.	176.	BR	760.	4.9	10.0	32.0		
34. SW DEP	9594.0	4331.0	9613.0	4285.0	50.	158.	BR	760.	4.9	20.0	32.0		
35. SW DEP	9613.0	4285.0	9637.0	4255.0	38.	141.	BR	760.	4.9	20.0	32.0		
36. SW DEP	9637.0	4255.0	9674.0	4229.0	45.	125.	BR	760.	4.9	30.0	32.0		
37. SW DEP	9674.0	4229.0	9713.0	4214.0	42.	111.	BR	760.	4.9	30.0	32.0		
38. SW DEP	9713.0	4214.0	9749.0	4205.0	37.	104.	BR	760.	4.9	30.0	32.0		
39. SW DEP	9749.0	4205.0	9816.0	4199.0	67.	95.	BR	760.	4.9	30.0	32.0		
40. SW DEP	9816.0	4199.0	9875.0	4206.0	59.	83.	BR	760.	4.9	30.0	32.0		

JOB: Galyer and Alaska- NA ALT A&D 2030 RUN: Gayler and Alaska- NA ALT A&D 2030

DATE : 12/12/ 3
TIME : 11:21:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
4. SEQ	70	40	4.0	750	1225	91.30	1	3
11. NWQ	70	40	4.0	660	1600	91.30	1	3
15. NEQ	70	12	4.0	840	1327	91.30	1	3
16. NEQ	70	12	4.0	840	1327	91.30	1	3
17. NEQ	70	12	4.0	840	1327	91.30	1	3
18. NEQ	70	12	4.0	840	1327	91.30	1	3
19. NEQ	70	12	4.0	840	1327	91.30	1	3
20. NEQ	70	12	4.0	840	1327	91.30	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Receptor 1	9362.0	4804.0	6.0
2. Receptor 2	9420.0	4841.0	6.0
3. Receptor 3	9452.0	4801.0	6.0
4. Receptor 4	9483.0	4762.0	6.0
5. Receptor 5	9516.0	4724.0	6.0
6. Receptor 6	9549.0	4685.0	6.0
7. Receptor 7	9581.0	4647.0	6.0
8. Receptor 8	9613.0	4607.0	6.0
9. Receptor 9	9645.0	4568.0	6.0
10. Receptor 10	9396.0	4767.0	6.0
11. Receptor 11	9428.0	4727.0	6.0
12. Receptor 12	9461.0	4689.0	6.0
13. Receptor 13	9493.0	4649.0	6.0
14. Receptor 14	9526.0	4612.0	6.0
15. Receptor 15	9557.0	4572.0	6.0
16. Receptor 16	9952.0	4206.0	6.0
17. Receptor 17	9921.0	4245.0	6.0
18. Receptor 18	9887.0	4282.0	6.0
19. Receptor 19	9855.0	4319.0	6.0
20. Receptor 20	9823.0	4358.0	6.0
21. Receptor 21	9791.0	4396.0	6.0
22. Receptor 22	9898.0	4159.0	6.0
23. Receptor 23	9868.0	4196.0	6.0
24. Receptor 24	9834.0	4235.0	6.0
25. Receptor 25	9800.0	4273.0	6.0
26. Receptor 26	9765.0	4312.0	6.0
27. Receptor 27	9732.0	4350.0	6.0
28. Receptor 28	9710.0	4375.0	6.0
29. Receptor 29	9698.0	4514.0	6.0
30. Receptor 30	9743.0	4452.0	6.0

JOB: Galyer and Alaska- NA ALT A&D 2030 RUN: Gayler and Alaska- NA ALT A&D 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0
10.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.4	.3	.0	.0	.0	.0	.0
20.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
30.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
40.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
50.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
60.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
70.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
80.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
90.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0
100.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.3	.0	.0	.0	.0	.0
110.	.4	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.3	.0	.0	.0	.0	.0
120.	.4	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.5	.3	.0	.0	.0	.0	.0
130.	.5	.1	.1	.1	.1	.1	.1	.1	.1	.5	.5	.5	.5	.4	.3	.2	.1	.2	.2	.2
140.	.3	.3	.3	.3	.3	.2	.2	.3	.3	.4	.4	.4	.3	.3	.3	.5	.4	.5	.5	.6
150.	.1	.4	.4	.4	.3	.2	.2	.2	.3	.2	.2	.1	.1	.1	.2	.6	.6	.7	.7	.7
160.	.0	.4	.4	.4	.3	.3	.1	.1	.1	.0	.0	.0	.0	.0	.0	.5	.5	.6	.6	.6
170.	.0	.4	.4	.4	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.0	.4	.5	.5	.5	.5
180.	.0	.3	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.4	.5	.5	.5	.5
190.	.0	.3	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.3	.4	.4	.4	.4
200.	.0	.3	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.3	.4	.4	.4	.4
210.	.0	.3	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.3	.4	.4	.4	.4
220.	.0	.3	.3	.3	.3	.2	.2	.2	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	.4	.4
230.	.0	.3	.3	.3	.3	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.3	.4	.4	.4	.4
240.	.0	.3	.3	.3	.3	.2	.2	.2	.1	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4
250.	.0	.3	.3	.3	.2	.2	.2	.2	.2	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4
260.	.0	.3	.3	.3	.3	.3	.3	.3	.2	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4
270.	.0	.3	.3	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0	.5	.4	.4	.5	.4
280.	.0	.3	.3	.3	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0	.5	.5	.5	.5	.5
290.	.0	.4	.4	.4	.3	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0	.5	.5	.5	.5	.6
300.	.0	.4	.4	.4	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.6	.5	.5	.5	.5
310.	.1	.5	.5	.5	.5	.5	.5	.5	.5	.1	.1	.1	.1	.2	.1	.6	.6	.6	.6	.5
320.	.4	.4	.5	.5	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.3
330.	.6	.2	.2	.2	.1	.1	.1	.1	.1	.6	.6	.6	.6	.6	.6	.2	.1	.1	.1	.1
340.	.5	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5	.5	.5	.5	.5	.0	.0	.0	.0	.0
350.	.4	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0
360.	.3	.0	.0	.0	.0	.0	.0	.0	.0	.4	.4	.4	.4	.4	.4	.0	.0	.0	.0	.0
MAX	.6	.5	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7
DEGR.	330	310	310	310	310	310	310	310	310	330	330	330	330	330	330	150	150	150	150	150

JOB: Galyer and Alaska- NA ALT A&D 2030 RUN: Gayler and Alaska- NA ALT A&D 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30
		CONCENTRATION (PPM)									
0.	*	.0	.4	.4	.4	.4	.3	.1	.1	.0	.0
10.	*	.0	.4	.4	.4	.4	.2	.2	.1	.0	.0
20.	*	.0	.3	.3	.3	.3	.3	.3	.0	.0	.0
30.	*	.0	.3	.3	.3	.3	.3	.3	.1	.0	.0
40.	*	.0	.2	.3	.3	.3	.3	.3	.2	.0	.0
50.	*	.0	.2	.3	.3	.3	.3	.3	.3	.0	.0
60.	*	.0	.2	.3	.3	.3	.3	.2	.3	.0	.0
70.	*	.0	.2	.3	.3	.3	.3	.2	.3	.0	.0
80.	*	.0	.2	.3	.3	.3	.3	.3	.3	.0	.0
90.	*	.0	.3	.4	.4	.4	.4	.4	.3	.0	.0
100.	*	.0	.3	.3	.4	.4	.4	.4	.4	.0	.0
110.	*	.0	.3	.3	.4	.4	.4	.4	.4	.0	.0
120.	*	.0	.4	.4	.4	.5	.5	.5	.5	.0	.0
130.	*	.2	.4	.4	.4	.4	.4	.5	.5	.1	.2
140.	*	.6	.2	.3	.3	.3	.3	.3	.3	.4	.6
150.	*	.7	.1	.1	.1	.1	.1	.1	.1	.4	.8
160.	*	.6	.0	.0	.0	.0	.0	.0	.0	.3	.7
170.	*	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4
180.	*	.5	.0	.0	.0	.0	.0	.0	.0	.1	.3
190.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.2
200.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.1
210.	*	.4	.0	.0	.0	.0	.0	.0	.0	.2	.1
220.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.1
230.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.1
240.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.1
250.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.2
260.	*	.4	.0	.0	.0	.0	.0	.0	.0	.1	.2
270.	*	.4	.0	.0	.0	.0	.0	.0	.1	.1	.1
280.	*	.4	.0	.0	.0	.0	.0	.0	.1	.1	.1
290.	*	.3	.0	.0	.0	.0	.0	.0	.1	.2	.1
300.	*	.4	.0	.0	.0	.0	.0	.0	.1	.3	.2
310.	*	.3	.1	.1	.1	.1	.1	.1	.2	.4	.3
320.	*	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4
330.	*	.1	.4	.5	.4	.3	.2	.3	.3	.1	.1
340.	*	.0	.4	.4	.4	.2	.2	.1	.1	.0	.0
350.	*	.0	.4	.4	.4	.4	.3	.1	.1	.0	.0
360.	*	.0	.4	.4	.4	.4	.3	.1	.1	.0	.0
MAX	*	.7	.4	.5	.4	.5	.5	.5	.5	.4	.8
DEGR.	*	150	0	330	0	120	120	120	120	140	150

THE HIGHEST CONCENTRATION OF .80 PPM OCCURRED AT RECEPTOR REC30.